THE DIRECT AND INDIRECT EFFECT OF GREEN PURCHASING BEHAVIOR OF CONSUMERS IN THE NORTHERN REGION OF MALAYSIA

MUHAMMED ABDULLAH SHARAF

Universiti Utara Malaysia

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BY
MUHAMMED ABDULLAH SHARAF

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ABSTRACT

In the recent years, consumers have started to express their concern over environmental issues, which caused manufacturers together with governments and policy makers to introduce green products as a partial solution. Many studies have put a significant thumbprint in this field, however, with this being an emerging market, there are still many gaps in both literature and in practice. Therefore, this research examines the influence of the perceived value of green products, environmental concern, green advertisement and eco-labels on Malaysian consumers' purchasing behaviour of green products. Furthermore, the study examined the moderating effect of green trust in order to provide a better understanding of the Malaysian consumers' green product purchasing behaviour. This quantitative study presents and discusses empirical findings from a survey of 383 respondents residing in the northern region of Malaysia using partial least squares-structural equation modelling (PLS-SEM). The results from the structural model revealed that the perceived value of green products together with green advertisement and price were crucial in directly affecting Malaysians' green purchasing behaviour. However, hypothesized paths for environmental concern, eco-label and availability of green products were not supported. The findings further indicate that the links between environmental concern and green purchasing behaviour are stronger when the respondents have high green product trust, supporting the moderating effect of green product trust. Finally, the implications are discussed, and the limitations of the study and future directions are briefly outlined.

Keywords: green purchasing behavior, green trust, environmental concern
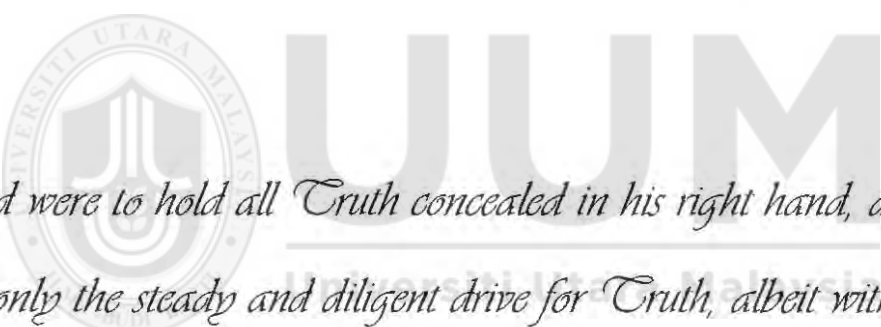
ABSTRAK

Sejak kebelakangan ini, pengguna mula menyatakan kebimbangan terhadap isu-isu alam sekitar yang menyebabkan pengeluar, kerajaan dan pembuat dasar memperkenalkan produk sebagai sebahagian daripada cara penyelesaian. Banyak kajian penting telah dijalankan dalam bidang ini. Walaupun hal ini mendapat perhatian yang semakin meluas, masih terdapat banyak jurang dari sudut praktikal dan kajian lampau. Oleh itu, kajian ini menyelidik pengaruh faktor-faktor seperti produk hijau, keprihatinan alam sekitar, iklan hijau, dan label *eco* terhadap tingkah laku pembelian produk hijau dalam kalangan pengguna di Malaysia. Selain itu, kajian ini juga meneliti kesan pengantaraan keyakinan produk hijau untuk memberikan pemahaman yang lebih baik tentang tingkah laku pembelian produk hijau. Kajian kuantitatif ini menunjukkan dan membincangkan penemuan empirikal hasil kaji selidik daripada 383 responden yang menetap di wilayah utara Malaysia menggunakan *partial least squares-structural equation modelling (PLS-SEM)*. Dapatan daripada model struktur menunjukkan bahawa produk hijau bersama dengan iklan hijau dan harga adalah penting dalam mempengaruhi tingkah laku pembelian produk hijau oleh rakyat Malaysia. Walau bagaimanapun, hipotesis keprihatinan alam sekitar, label *eco* dan kebolehdapatan produk hijau didapati tidak disokong. Penemuan ini juga menyokong kesan pengantaraan keyakinan terhadap produk hijau apabila hubungan antara keprihatinan alam sekitar dengan tingkah laku pembelian produk hijau didapati lebih kuat apabila responden mempunyai keyakinan tinggi dengan produk hijau. Akhir sekali, implikasi kajian dibincangkan, batasan kajian dan hala tuju kajian dijelaskan secara ringkas.

Kata kunci: tingkah laku pembelian produk hijau, keyakinan produk hijau, keprihatinan terhadap alam sekitar

"Allah will raise those who believe from among you, and those to whom knowledge is given, to degrees of rank. And Allah is Well-Aware of what you do"

-Quran, 58:12-

"If God were to hold all Truth concealed in his right hand, and in his left only the steady and diligent drive for Truth, albeit with the proviso that I would always and forever err in the process, and offer me the choice, I would with all humility take the left hand, and say: O' God, I will take this one – the pure truth is for You alone"

-Gotthold Ephraim Lessing-

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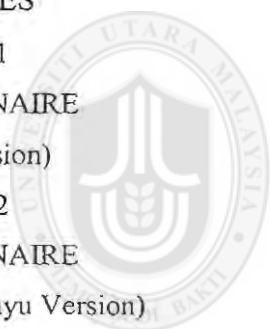
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LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
CFL	Compact Fluorescent Light
CR	Composite Reliability
CSR	Corporate Social Responsibility
DV	Dependent Variable
EU	European Union
EVT	Expectancy-value Theory
GDP	Gross Domestic Product
IV	Independent Variable
KL	Kuala Lumpur
PBC	Perceived Behavioral Control
RM	Ringgit Malaysia
SIRIM	The Standard and Industrial Research Institute of Malaysia
SPM	Sijil Pelajaran Malaysia
SPSS	Statistical Package for the Social Sciences
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UK	The United Kingdom
USA	The United States of America
WEPI	World Environmental Performance Index

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Starting from the early 1990s, consumers' concern to environmental issues have increased, with the majority of the concerned consumers becoming a strong force of green consumerism requesting companies to play their social responsibility and come up with solutions (Peattie, 2001). Such a force has led marketers from these corporations to start considering green products and green processes in their plans. This issue drove global communities in many countries to pass strict and new laws that support the environment (Ramezanian, Ismailpor & Tondkar, 2010). The first actual change towards going green among corporations was applied in 1992, when guidelines on labels that designate environment support were enforced by the European Commission (Hessami & Yousefi, 2013).

The term 'green marketing' refers to marketing environmentally-friendly products or services (Mishra & Sharma, 2010). As a concept, it is associated with the whole marketing activities starting with the production phase, to having it consumed by the final customer, and finally by having the products disposed in a way that does not harm the environment. Many consumers started to recognize the impacts of their behavior on the environment over the years, and many studies suggest that environmentally concerned consumers usually turn their backs on some products and

go for others based on the level of harm these products cause to the environment (Laroche, Bergeron, & Barbaro-Forleo, 2001).

Green marketing is an integral part of a company's overall corporate strategy (Menon & Menon, 1997). Besides the process of manipulating the known marketing mix that consists of product, price, place of distribution and promotion, green marketing entails a wider understanding of the public policy process. It also bonds with environmental sustainability and industrial ecology issues like life-cycle analysis, eco-efficiency, extended producers' liability, and resource flows and material use (Khandelwal & Yadav, 2014). However, green marketing is a wide area, which thus have potential implications for public policy and business strategy. In general, some terms such as 'recyclable', 'environmentally-friendly', 'ozone-friendly', 'phosphate-free', and 'refillable' are some well-known titles that consumers relate to in the concept of green marketing (Khandelwal & Yadav, 2014; Singh & Pandey, 2012).

The concept of green marketing was developed in three phases. The first phase emerged during the late 1980s when the concept was proposed to firms for the first time. The early 1990s was the second phase as a green parcel of consumers and products arose and are known as green consumers (Shil, 2012). The third phase started since the year 2000 as more government rules and regulations were enforced, more technologically advanced products were introduced and most importantly, the quality of green products improved (Lee, 2008; Neeru, 2015).

With the development of green marketing, we come to answer the question of 'who exactly are green consumers?' The term "green consumers" refers to consumers

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who are concerned about the environment (Ahmad & Juhdi, 2008). They are internally controlled and have a strong belief that every person can participate in protecting the environment, and this action should not be left to environmentalists, scientists, businesses and governments to deal with alone (Boztepe, 2012). Green consumers are less dogmatic and are more tolerant with new ideas and products. This tolerance helps in the acceptance of green products (Boztepe, 2012; Shamdasani, Chon-Lin & Richmond, 1993).

A study from Cone Communications (2009), which was conducted on 1,087 adults from the United States of America aimed to study consumers' attitude towards purchasing environmentally-friendly products, found that 35 percent of Americans showed more concern over environmental issues. They also tended to expect that companies will produce green products and services, and 70 percent of those respondents paid attention to companies' activities that support the environment today, as shown in the following figure.
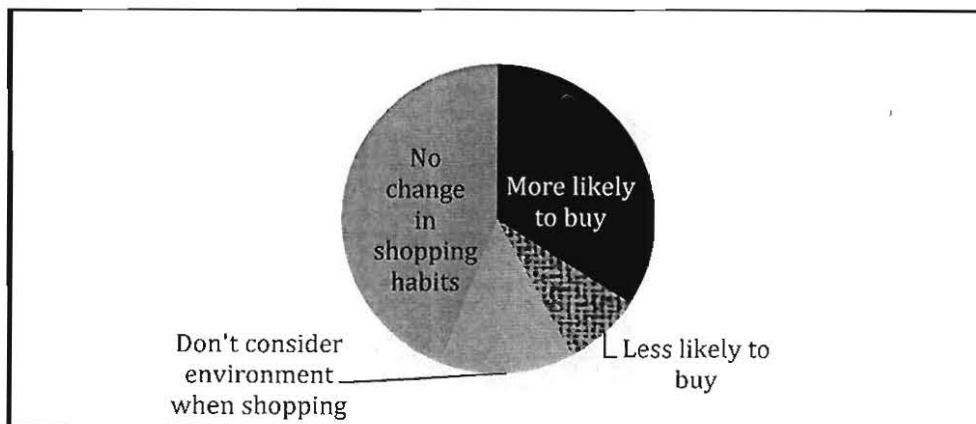
Source: Cone communications (2009)
Figure 1.1
Consumer Interest in Environmental Purchasing

Based on Figure 1.1, it is illustrated that a big percentage of American respondents show a favorable green purchasing behavior. Majority of these consumers are triggered to buy green products and those who do not purchase green products indicated that they have the will to do so in the future.

Previous studies indicated that consumers in western countries participate in environmental behaviors due to their eagerness to overcome environmental issues by using recycled products or by preventing themselves from buying products that could harm the environment. They also wish to be perceived by others as role models of good behavior (Gan, Wee, Ozanne & Kao, 2008; Hallin, 1995), and their belief of having the ability to protect the environment is the reason for behaving in such a way. Recently, a global survey stated that 53 percent of people favor purchasing products or services from companies that are highly associated with environmental support (Figure 1.2). This survey was funded by a visual communication firm named Tandberg and was executed by the second largest market research organization in the UK (IPSOS MORI). It surveyed 16,823 respondents from 15 different countries and found that the green products concepts were widely accepted in western countries.
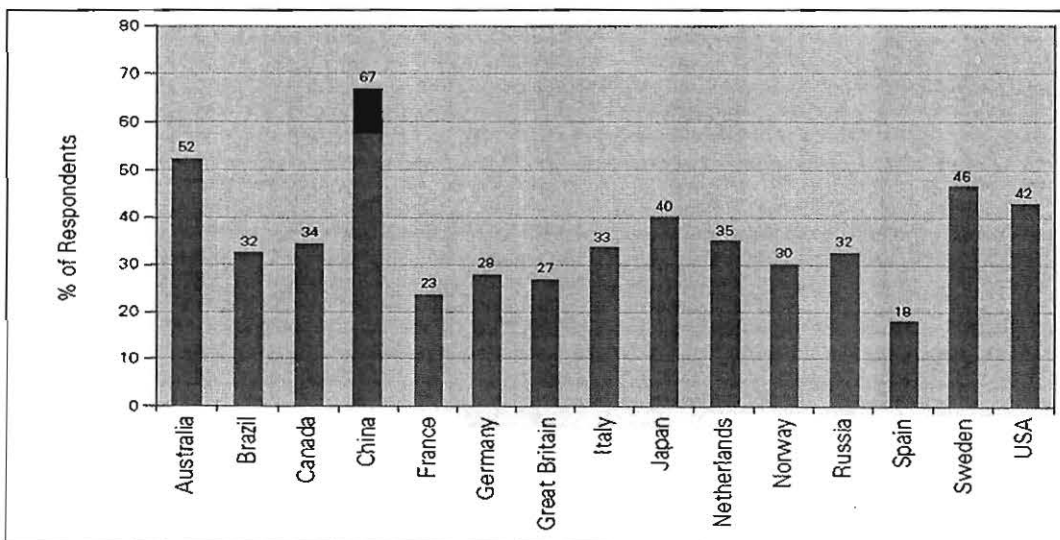
Source: Downing and Ballantyne (2007)

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Figure 1.2
The Purchase of Green Products and Service in The World, 2007

Furthermore, the figure indicates that consumers in western countries have a positive green purchasing behavior and are keen to go green. The green products concept has been widely accepted by consumers in the western countries and America, and with modern globalization, it was a matter of time before the green wave would reach Asia, especially as these environmental threats do not exclude this region which are placing citizens and their governments in danger (Lee, 2008). With the rapid economic growth Asia enjoyed, especially starting the middle of the previous century, the general purchasing power in the region grew and consumers finally had the ability to purchase more products compared to their former generation. This contributed to a higher purchasing behavioral conduct (Li & Su, 2007), and Malaysia is no exception in this matter.

Malaysia is a developing country which aims to become a developed country by the year 2020 (Lee, 1999). One of the elements that makes a state categorized as 'developed' is having more people in the middle-class (Landas, 1998). Hence, the Malaysian government has pushed its efforts to increase and improve the middle class's growth (Mujani, Hussain, Ya'akub, & Kasri, 2012) and has a goal of doubling the income per capita to RM48,000 by the year 2020 (Bank Negara Malaysia, 2011). As Landes (1998) mentioned, the growth of the middle class in different economies is the main driving force that leads to a faster pace of economic development. Figure 1.3 illustrates the GDP growth in Malaysia, which reached 6 percent in 2010 and despite falling in the few following years, it kept improving at an average rate of 2 percent. Such a growth can lead to a stronger purchasing power for consumers, and the ability to purchase is one of the most important issues facing green products.
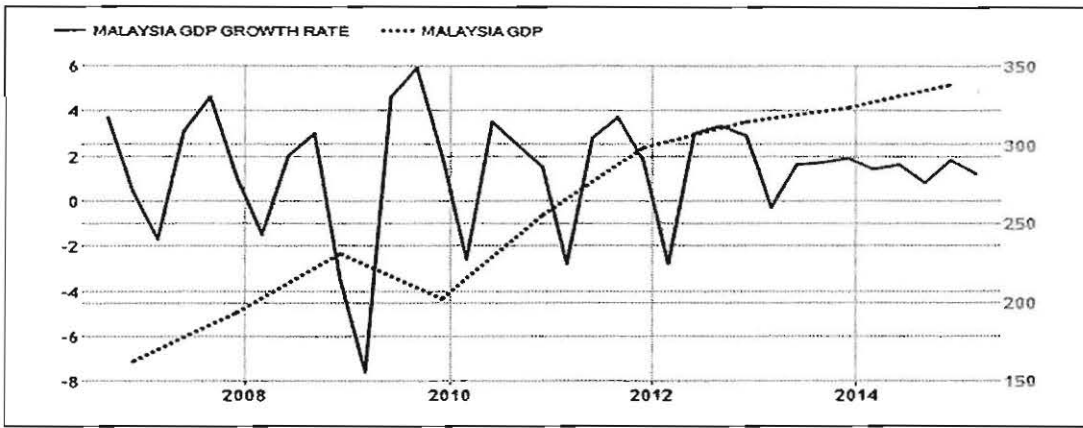
Source: Trading Economics (2016)
Figure 1.3
Malaysia's GDP Growth Rate 2006-2015

With the high influence of going green, Malaysia ranked 27th among 163 nations around the world in 2008 under the World Environmental Performance Index (WEPI). However, this position dropped to 54th two years later (Yale University, 2016). The basis of ranking in the index is explained by the management of environmental issues such as air pollution and solid waste management, and the importance of ranking high in this index comes from the fact that Malaysia has a goal of becoming a developed country by the year 2020. Hence, the Malaysian government had to intensify its efforts to be transformed into a green country (Malaysia Ministry of Energy, Green Technology & Water, 2009).

In 1999, the World Bank conducted a study and found that Malaysia generated 81 thousand tons of solid waste. If the solid waste management remains the same, this number could jump to 140 thousand tons per day by the year 2025 as shown in Table 1.1.

Table 1.1
Urban Waste Generated by Selected Asian Countries in 1999

Country	Solid waste generation 1999 kg/capita/day	Estimated solid waste generation 2025 kg/capita/day
Myanmar	0.45	0.60
Nepal	0.50	0.60
Philippines	0.52	0.80
Vietnam	0.55	0.70
Indonesia	0.76	1.00
Malaysia	0.81	1.40
Sri Lanka	0.89	1.00
Thailand	1.10	1.50

Source: Urban Development Sector Unit, East Asia and Pacific Region, World Bank (2000)

From the figure, it is clear that Malaysia needs to find solutions for these issues as people and governments must take responsibility in balancing economic growth and environmental sustainability (Tan & Lau, 2011). Not only is solid waste causing environmental issues to the country, it even costs authorities between RM110 (USD33) and RM130 (USD39) to collect and dispose 1 ton of garbage, resulting in the loss of nearly RM15,000,000 daily, causing local authorities to spend almost 60 percent of their annual budgets on this matter (Ramayah, Lee & Mohamad, 2010).

The reason for highlighting such an issue comes from the fact that green products are designed in a way that makes it easier to be reused or recycled compared to conventional products (Fullerton & Wu, 1998). According to the U.S. Congress Office of Technology Assessment (1992), green products are designed in a way that "environmental attributes are treated as design objectives". It added that green products are produced using less harmful raw materials in the first place, making the total generated solid waste less, starting from the goods production until its consumption.

Recently, the Malaysian government has shown more commitment to consistently uphold environmental sustainability. For example, in 2010, the New Economic Model was presented and placed sustainability as one of the economic transformation program goals that aim to transform Malaysia into a green hub along with the development process of businesses ranging from research to design to manufacturing to commercialization (Alias, Masek, Salam, Bakar & Nawawi, 2014).

According to Singaralingam (2015), the mentioned issues are precarious to tourism dependent countries such as Malaysia as mishandling environmental issues may result in negative reviews by tourists and organizations, and could soon cripple the tourism industry in Malaysia. He added that the Malaysian Tourism Minister expressed his concern over this matter and emphasized the importance of keeping the environment clean and preserved, which is a major condition if Malaysia wants to become a major tourism hub.

Accordingly, Malaysian consumers became more aware of issues like health, safety and quality, and this drove more demand for green and organic products. With such a shift in the demand for environmentally-friendly products, a significant growth opportunity for these types of products in Malaysia is seen (Phuah, Rezai, Mohamed & Shamsudin, 2012). It is interesting to highlight that the environmental products and services market in Malaysia hardly existed 10 years ago, and is now having a 30-40 percent growth annually (Zainudin, 2013). The existence of green products occurred due to consumers' higher environmental concern, and this novel product can be a promising market for businesses.

Previous studies on green products purchasing has primarily been focused on in Europe and the USA. Furthermore, researchers still do not have a clear image of how Asian consumers perceive green products (Roitner-Schobesberger, Darnhofer, Somsook, & Vogl, 2008). Past studies have not given enough focus to the consumption trends in South-East Asian countries despite the fact that this region could be a major market for green products in the near future (Voon, Ngui & Agrawal, 2011). Hence, it is clear how the green wave has directly impacted Malaysia, and how both private and government sectors are going the extra mile to convince Malaysians to go green. However, despite all these efforts, not many citizens have translated that into real action for several behavioural reasons and factors which this study intends to uncover.

1.1 Problem Statement

Around the middle of the previous century, the world's environment started to face many issues. Year by year, the problem was aggravated with many critical issues surfacing such as global warming and climate change, which caused longer summers and winters and this in return damaged the flora and fauna in the affected areas around the world (Singaralingam, 2015). These issues happened due to highly polluted seas and rivers, as well as other pollution sources such as acid rain, noise pollution and substances that could harm the environment (Ramlogan, 1997). However these issues are just the tip of the iceberg. According to Grunert (1993), private household activities are the responsible for 40 percent of the destruction of the environment yearly. Malaysia is facing similar issues such as managing solid waste poorly (whether household goods or industrial waste) and high carbon emissions which is caused by air pollution (Singaralingam, 2015). The reason for underlining

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these matters comes from the fact that the consumption of green products is considered a main contributor to environmental protection activities (Griskevicius, Tybur, & Van den Bergh, 2010). Boztepe (2012) added that green purchasing behavior is essential in preserving and protecting the environment, and people who follow such a behavior largely contribute to environmental protection.

In a survey that was conducted by AC Nielsen in 2011, the results suggested the existence of a high degree of environmental concern among Malaysians. However, the same study showed that only 20 percent of Malaysian consumers were keen to go green (The Edge, 2011). This implies that despite the high environmental concern among Malaysians, they were still not ready to transform their purchasing behaviour in a way that supports environmentally-friendly products. In addition, despite the efforts Malaysia has taken to prove its readiness to play its role in environmental management and to achieve its environmental objectives, it endorsed national environmental policies (Rahbar & Abdul-wahid, 2011). Malaysia ranked 69 out of 70 in the latest index published by the US-based World Resources Institute's Environmental Democracy Index (The Malaysian Insider, 2015), and in 2008, Malaysia's ranking in the World Environmental Performance Index among 163 states was 27. However, this number dropped to 63 in 2016 (Yale University, 2016). These numbers suggest that peoples' concern over environmental issues is declining and their attitude is not in favor of the environment.

One of the biggest problems facing green purchasing in Malaysia is the way these products are marketed. In an empirical study, Rahbar and Abdul-Wahid (2011) stated that Malaysians believe that green advertising could augment their knowledge on green products, and they are certain that environmental advertising could help

them in their decisions of purchasing behavior. Lim, Ting, Ng, Chin and Boo (2013) conducted an exploratory research and found that their respondents showed high awareness of green advertisements around them, however, they did not find themselves influenced enough by those ads.

Moreover, there are many claims of how strong and effective eco-label is in Malaysia, however, despite the launch of a national eco-label in 1996, Malaysians' awareness of the available local eco-label was insignificant (Rashid, 2009). Rahbar and Abdul-Wahid (2011) supported this claim as they too found that consumers were aware of the launch of the national eco-label, however, no noteworthy increase in green purchasing among them was recorded. Furthermore, Azizan and Suki (2014) concluded that consumers still lacked the proper awareness and comprehension of eco-labels and urged for an improvement of Malaysians' eco-labelling awareness as the more they are aware of it, the better they will perceive the reliability of green products.

Relatedly, two of the major problems that drive consumers away from purchasing green products are their high prices (Shahnaei, 2012; Van Doorn & Verhoef, 2011) and the difficulty to find these products (Aertsens, Verbeke, Mondelaers & Van-Huylenbroeck, 2009; Kaufmann, Panni & Orphanidou 2012; Zakowska-Biemans, 2011). According to a MasterCard survey, which interviewed approximately 12.500 Malaysians and was piloted through online interviews from 5th Dec, 2011 until 6th Jan, 2012, it was suggested that Malaysians would pay more for items that are environmentally friendly (The Star, 2012). However, Shahnaei (2012) found in her research that one of the struggles consumers in Malaysia face when they plan to purchase green products is their high cost, as it plays a major part in their

purchasing decision. This contradiction calls for a study of the effect of green products' prices to find whether it affects Malaysians' green purchasing behavior. On the other hand, Rahim, Shamsudin, Radam and Mohamed (2011) suggested that the market for green food products in Malaysia is still not wide. Shahnai (2012) stated in her research that one of the major obstacles Malaysians face when they purchase green products is its low availability. Therefore, studying the effects of green products' price and availability is essential to determine their influence on green purchasing behavior.

In the literature related to consumers' green purchasing behavior, despite former studies paying big attention to discover the issue of trust, no study has tested it under the context of green or environmental issues (Chen & Chang, 2012). Companies usually claim they are offering consumers products with certain characteristics, however, these products hold ambiguous and sometimes confusing green claim. Companies tend to exaggerate when it comes to the value their products could bring to the environment, and this results in consumers not trusting the claims green products make and become reluctant to trust these companies in general (Chen & Chai, 2010; Chen & Chang, 2012). Thus, it is worth studying the effectiveness of green trust in closing the gap between purchasing behavior of green products, along with perceived value, environmental concern, green advertisement, eco-label, price of green products and green products' availability. Therefore, this research sought to discover whether green trust has a moderating effect with the mentioned variables or not.

As the green products industry appears to be lacking research on the issues discussed above, there is an urgent need to provide solutions to the stated problems. A

lot of research has been done on green purchasing in Malaysia, but they commonly discuss other issues that may or may not affect purchasing behavior of green products. For instance, Teng, Rezai, Mohamed and Shamsudin (2011) studied socio-economic/demographic characteristics' effects on attitude; Mohamed and Ibrahim (2007) on willingness to pay for environmentally certified wood products; Rashid (2009) on the effects of eco-label on green purchasing intention; Nizam (2011) on the benefits and cost of green products; Zakersalehi and Zakersalehi (2012) on green packaging; Rahim, Zukni and Lyndon (2012) on the awareness and perception of Malaysian youth towards green advertising; Shahnaei (2012) on the effect of individuals differences on green purchasing; Suki (2013) on green awareness; Mas'od and Chin (2014) on socio-demographic, psychographic and religiosity of green hotel consumers; and Hassan (2014) on the role of Islamic values on green purchase intention, along with many other studies on other issues. However, as none or very little research has been done on the above issues as discussed earlier which particularly affect green purchasing behavior among Malaysian consumers, there is a need to fill the gap in this current research.

In addition to the practical issues discussed previously, there is a necessity to apprehend the shortcomings of the theory of planned behavior. According to Hale, Householder and Greene (2003), the dependence of situation-specific cognition when explaining certain behaviors excludes the effects of emotions, habits, or spontaneity as results of desire to explain behavior. These findings are in line with Nataraajan and Bagozzi (1999) who speculated that when an approach is cognitive, it relies on the notion that consumers tend to be rational when they make a decision, and therefore ignores the effect of emotions on their decision-making. The TPB by Ajzen (1991) has its inadequacy in predicting green behavior due to the cognitive and non-cognitive

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nature of green behavior (Singaralingam, 2015), while the theory explains cognitive behavior only. Furthermore, the TPB only limits attitudes, subjective norms and perceived behavioral control to be the determinant for intention and then to behavior. However, many researchers emphasized the role of different factors to predict behavior, particularly when it studies pro-environmental behavior. Practical studies stated that the TPB only explains 40 percent of the variance (Ajzen, 1991; Werner, 2004). In addition, Werner (2004) suggested that the TPB explains actions of individuals on specific criteria, yet, people's behaviors are not limited to those criteria, and therefore a study on the variables of the TPB under different dimensions could give a better prediction of the behavior that is needed. Thus, based on the research background and the previous discussion, the research questions are formulated as follows:

1.3   Research Questions

The research questions of this study are as follows:

a. Do perceived value of green products and environmental concern influence purchasing behavior of green products?

b. Do green advertisement and eco-label influence purchasing behavior of green products?

c. Do green products' availability and price influence purchasing behavior of green products?

d. Does green trust moderate the relationship between perceived value of green products, environmental concern, green advertisement, and eco-label, and purchasing behavior of green products?

1.4   Research Objectives

The main objectives of this study are:

a. To examine the influence of perceived value of green products and environmental concern on the purchasing behavior of green products.

b. To investigate the influence of green advertisement and eco-label on the purchasing behavior of green products.

c. To investigate the influence of green products' availability and price on the purchasing behavior of green products.

d. To examine the moderating role of green trust on the relationship between perceived value of green products, environmental concern, green advertisement, eco-label, and the purchasing behavior of green products.

1.5   Scope of the Study

The main objective of this research is to answer the research questions and achieve the objectives of this research. The research studies Malaysian consumers from various age groups, education levels, ethnic groups and income levels. The main requirement is that they have the ability to purchase products generally and green products in particular; this was ensured by approaching consumers in hypermarkets after they have made a purchase by asking about their purchase before giving the questionnaire.

This study covers consumers located in Penang, Kedah and Perlis as these three states represent the northern region of Malaysia and citizens living there have

similar characteristics. Besides that, most studies are conducted in major cities like Kuala Lumpur and Selangor (e.g. Chen & Chai, 2010; Mei, Ling & Piew, 2012; Mohamed & Ibrahim, 2007; Sinnappan & Rahman, 2011) and less studies have been conducted in the northern region of Malaysia.

1.6   Significance of Study

This study helps Malaysian academics who are interested in the topic of purchasing behavior of green products along with consumers' intention. The results of this research will provide a better understanding of which factors influence purchasing behavior of green products the most. The study's findings are a key point and a motivation for other researchers in Asia in general and Malaysia in particular to move towards investigating other factors behind purchasing behavior of green products. Additionally, it contributes to the academic studies and literature in the field of purchasing behavior.

In addition, this research aims to study the antecedents of purchasing behavior of green products among Malaysians using the TPB model (Ajzen, 1991). The researcher expects this study to be beneficial in several aspects. It adds beneficial material to the literature by introducing the theory of planned behavior as a thorough model to examine a set of variables that have an effect on purchasing behavior of green products. Moreover, the newly developed model can be a useful tool in the future for academics to understand these antecedents.

This study can improve the knowledge of green purchasing behavior in Malaysia in particular. It seems that the majority of the studies on purchasing behavior of green products has been done in western countries, and despite the few

researches that have been done in Asian countries in general, or in Malaysia in particular, no concrete answer has yet been given. This study provides empirical evidence for developing countries that have a distinct culture, consumers, values and environment.

Furthermore, in an exhaustive evaluation of the pertinent literature, it was found that there is a lack of published research that specifically focused on trust and its relationship towards green products. This research adds new knowledge regarding the theoretical framework by the addition of the green trust factor to the TPB model as a moderating variable; many studies concentrate on different variables and dimensions, and few have focused on this factor with this collection of variables. Therefore, the current study is essentially exploratory in nature where it aims to explore the moderating effect of green trust between perceived value, environmental concern, green advertisement, eco-label, green products availability, price of green products and the purchasing behavior of green products. Furthermore, this study helps in providing a basis for further investigations in this area.

In recent years, Malaysians showed a more favorable attitude towards a better lifestyle. The fact that people are moving from rural areas to urban areas has led to an improvement in their lifestyle in different aspects (Singaralingam, 2015). These factors together with the factor of the increase in people's standard of living has led for people to go the extra mile to own valuable and authentic goods. Besides that, Malaysians now have the ability to purchase healthier goods more than ever, especially if they found the right approach from both companies and the government.

Therefore, it is essential to study consumers' green purchasing behavior. Once

the right factors are highlighted, they become crucial to be examined to introduce proper marketing strategies that can fulfill Malaysians' needs and wants.

This study contributes towards research in consumer practices in the Malaysian perspective. The insightful findings may help corporations and marketers to formulate appropriate policies or strategies to promote positive consumer behavior towards green products among Malaysian consumers.

After determining the important factors of purchasing behavior of green products, marketers could work on improving and developing better marketing strategies that focus on the important factors that may increase the consumer base of green market in Malaysia. This study also assists in attracting potential consumers to purchase green products which would improve their lifestyles. Additionally, understanding green industries' weaknesses can help to push policy makers, governments, and investors to focus upon the Malaysian segment based on their actual behavior of purchasing green products. Understanding consumers' behavior is critical for policy makers and government officials to increase the awareness of the significance of green products in Malaysia.

1.7   Definition of Key Terms

In this section, the researcher would like to highlight the conceptual definitions of all the constructs contained in the research framework. In this research, the framework's major constructs are defined by combining such definitions allocated to the same construct in prior studies. The constructs identified in the research are purchasing behaviour, perceived value, environmental concern, green advertisement, eco-label, price of green products, green products availability, and green trust.

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Moreover, TPB was utilized in the study's framework to investigate the determinants of purchasing behaviour of green products.

- **Purchasing Behavior**

The final consumers' buying behaviour of goods and services for their own consumption (Armstrong, Adam, Denize & Kotler, 2014).

- **Perceived Value**

The approach in which the consumer visualizes value, whether that value is desired and received, or the products' connection to its own consequences in terms of achieving consumer objectives (Payne & Holt, 2001).

- **Environmental Concern**

One of the main predictors in the decision-making process consumers make based on the knowledge they have about green issues, their attitudes towards the quality of the environment, or their sensitive behaviour towards the environment (Diamantopoulos, Schlegelmilch, Sinkovics & Bohlen, 2003).

- **Green Advertisement**

Green message that is conveyed to the general public which would influence consumers' attitude and the way they evaluate products (Edell & Burke, 1987).

- **Eco-label**

The bundle of information used to deliver a specific message to customers on the implications of the environment when purchasing such a product (Tang, Fryxell &

Chow, 2004).

- **Price**

Cost and aids that inform buyers about the value of goods (East, 1997).

- **Green Trust**

Consumers' perception of a good or service depending on what they believe these products could deliver, how credible they expect them to be, and whether these products would deliver their environmental claims or not (Chen & Chai, 2010).

1.8 Organization of Chapters

Chapter One provides an introduction to the research, the background of the research problems, objectives of the study and organization of this thesis. Chapter Two provides a review of the literature on green purchasing behaviour, perceived value, environmental concern, green advertisement, eco-label, price of green products and green products' availability, and green trust. A conceptual framework for this research is also presented together with the hypotheses to answer the questions of this research. Chapter Three highlights the design of this research, the procedure used in sampling, the measures and instruments, the reliability and validity, and the process of collecting the data. This is followed by Chapter Four which reports the data analysis. Finally, Chapter Five presents the recapitulation of the research questions and objectives, discusses the findings of the research, puts forward recommendations for managers and finally suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.0   Introduction

This chapter provides discussions about the literature related to this study, starting with the dependent variable of green purchasing behavior, followed by the independent variables which are perceived value of green products, environmental concern, green advertisement, eco-label, price of green products, and green products' availability, along with their relationship with the dependent variable as well as the moderating variable of green trust. After that, the underpinning theory is outlined, the theoretical framework is formed and the hypotheses of this study are presented at the end.

2.1   Purchasing Behavior of Green Products

The concept of green purchasing came in the late 1970s when the rise of pro-environmental activists emerged in the western countries. This type of activity spread around the globe reaching the Asian region (Lee, 2008). One of the main features of a green product is that it does not cause pollution to the earth, neither does it abuse natural resources. It also has the ability of being conserved or recycled (Lau & Tan,

2009; Shamdasani *et al.*, 1993). One of the forms of green products come is household items that are produced from post-consumed plastics or paper, perfumes that are non-polluting and have no synthetic dyes, packaging that have been recycled, detergents that contain biodegradable ingredients, and energy-efficient light bulbs (Mostafa, 2007; Tan, 2011). Companies that promote green products usually use specific terms such as "ozone-friendly", "environmentally-safe", "recyclable", "eco-friendly" and "biodegradable".

On the other hand, pro-environmental behavior refers to individuals' or groups' actions that participate in using natural resources sustainably (Halpenny, 2006; Tan & Lau, 2011). It can have many categories such as green purchasing behavior (Tarkiainen & Sundqvist, 2005; Kim & Choi, 2005; Gupta & Ogden, 2006; Mostafa, 2007; Mohamed & Ibrahim, 2007), waste and recycling behavior (Kim, 2002; Barr & Gilg, 2007), energy saving (Kim, 2002; Kim & Choi, 2003), and participating in activities that are related to the nature (Mat, Ahmadun, Paim & Masud, 2003; Haron, Paim & Yahaya, 2005).

Consequently, green purchasing behavior is the purchase or consumption of goods or services that have no harm to the environment (Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997; Tan & Lau, 2011). Scholars and marketers use some terms to refer to green purchasing behavior such as 'environmentally responsible purchase behavior' (Follows & Jobber, 2000), 'environmental purchase behavior' (Soutar, Ramaseshan & Molster, 1994; Tilikidou, 2007) and 'green buying behavior' (Kim, 2002; Kim & Choi, 2003; 2005).

People's efforts to preserve energy and only buy products that are green

and/or have proper packaging is one type of green purchasing behavior (Tan & Lau, 2011). According to Chan (1996) and Joonas (2008), the act of buying standard sprays or beverages that use recyclable containers are considered a form of green purchasing behavior. Other researchers (Hessami & Yousefi, 2013; Mainieri *et al.*, 1997) included consuming detergents made of recyclable materials, products produced from recycled plastics and paper, and purchasing CFL light bulbs as categories of green purchasing behavior. Moreover, Tan and Lau (2011) suggested that biodegradable and recyclable products that are produced organically, and come with minimum packaging, are exactly what green products are all about (Hessami & Yousefi, 2013).

The main contributor to the popularity of green purchasing behavior came from the fact that many environmental issues kept coming in the late years (Alwitt & Pitts, 1996; Eriksson, 2004). According to Griskevicius *et al.* (2010), the increase of concerns over environmental issues led to many academic attempts to specify pro-environmental behavior. Different scholars (e.g. Alwitt & Pitts, 1996; Eriksson, 2004, Peattie & Crane, 2005) suggested that the factors that help shape a pro-environmental behavior can be categorized into two main factors: the first is individuals' surroundings such as family and peers, as well as social influence, while the second factor is based on a person's norms such as attitude.

In another classification from the mentioned factors, Stern (2005) categorized green purchasing behavior into public domain and private domain, and he used the two domains to conduct his study. He concluded that the public's support for environmental policies is a form of a public domain because it plays a big role in making significant change, while the purchase of environmentally-friendly products

such as purchasing hybrid cars, buying organic food, or using energy-saving home appliances is an example of a private domain.

According to Li and Geiser (2005), the concept of green purchasing has been accepted in developed countries and is widely campaigned for it. A study that was conducted in the UK on the impact on the environment concluded that 70 percent of the respondents have a strong belief that the environment can be affected either positively or negatively by green purchasing. Moreover, 83 percent of the respondents think that buying green tagged products is essential to conserve the environment (Dansirichaisawat & Suwunnamek, 2014; Gilg, Barr & Ford, 2005). On the other side of the globe, American respondents supported the idea of the existence of a relationship between green behavior and the intention to go green (Kaiser, Ranney, Hartig & Bowler, 1999). Moreover, another study that was conducted years earlier showed that more than 60 percent of Americans showed concern about the effect of their purchasing behavior on the environment (Dagnoli, 1990; Wong, Lee, Lin & Low, 2012). In the Asian point of view, respondents from two major cities in China, namely Guangzhou and Beijing, believed that the purchase of green products could affect the environment (Chan, 2001).

Consumers around the world who support the going green movement are those who associate their green purchase behavior to a lifecycle value where they have a strong belief on how the environment can directly benefit from their green purchasing behavior (Chung & Wee, 2008). They are also consumers who relate green purchasing to sustainability (Gilg *et al.*, 2005) and who think that green purchasing can help in preventing climate changes (Edwards-Jones, Plassmann, York, Hounsome, Jones & Canals, 2009). However, the real motivation to purchase green

products can differ from one person to another; different factors can have different degrees of impact on those people.

In relation to what was mentioned earlier, in the late 90's, a study in Hong Kong revealed no significance between green purchasing behavior and the respondents' concern. The non-existence of any relationship between these two was explained by the high prices of green products, and the difficulty to find them across the country together with people's belief that current environmental conditions will not benefit from their green purchasing behavior (Saeed, Iqbal, Riaz & Ashraf, 2014; Yam-Tang & Chan, 1998).

According to Webster (1975), one of the earliest scholars to highlight this topic, green consumers are consumers who believe their actions can benefit the public and who feel the ability of bringing social change with their purchasing power. Webster also suggested that these consumers try to relate social issues to their purchasing behavior. In accordance, there are many factors that can help in examining purchasing behavior such as green purchasing attitude (Ali, Khan, Ahmed & Shahzad, 2011), price of green products and their perceived value (D'souza, Taghian, Lamb, & Peretiatko, 2007), environmental concern (Phau & Ong, 2007), social influence and products' eco-label (Mei, Ling & Piew, 2012; Mostafa, 2009), and credibility of environmental advertising (Thogersen, 2000). Therefore, this study used some of the mentioned factors to measure consumers' green purchasing behavior; these factors are highlighted in the following sections.

2.2   Perceived Value from Green Products

Green perceived value can be explained as the way consumers evaluate green

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products and how far these products are credible in terms of meeting the green demands and protecting the environment (Patterson & Spreng, 1997). Bolton and Drew (1991) defined perceived value as the overall benefit consumers expect to get when evaluating a certain product.

Dodds and Monroe (1985) stated the importance of perceived value in shaping the consumers' decision when they purchase. Zeithaml (1988) added that consumers tend to evaluate the things they give and get when they purchase a product. In that context, the Utility Theory suggests that there is a higher possibility of a purchasing behavior when consumers believe they will get higher value compared to what they pay for (Dickson & Sawyer, 1990). Besides that, Thaler (2008) treated perceived value as a significant interpreter of consumer purchasing behavior, because it composes of transaction utility and acquisition utility.

Swait and Sweeney (2000) analyzed the impact of perceive value on consumers' purchasing behavior. The results suggested that there are different levels of purchasing behavior when consumers perceive value differently. As a matter of fact, some researchers highlighted the importance of perceived value for companies (Chen & Quester, 2006; Cronin, Brady & Hult, 2000; Pura, 2005), as perceived value is different and competitive to a company (Treacy & Wiersema, 1993; Heskett, Jones, Loveman, Sasser & Schlesinger, 2008; Ravald & Grönroos, 1996). Moreover, consumers' attitudes can be transformed from the advertised materials to the actual product, and hence perceived value can be created. Accordingly, when consumers consume the products and get the value they perceived, the company gains a good brand image, loyal consumers, increased profit and competitive advantage.

Some consumers use their own value, their specific needs, their preferences and their purchasing power as a base to determine what value they perceive from a certain offering (Ravald & Grönroos, 1996). The perception of value can be different from one consumer to another based on the situation where the product was used (Anckar & D'Incau, 2002). In the literature of marketing, measuring perceived value as a single paradigm is a common thing (Bolton & Drew, 1991). However, it is also possible to use a multi-item scale when measuring perceived value uni-dimensionally (Anderson & Srinivasan, 2003; Chiou, 2004; Dodds, Monroe & Grewal, 1991; Grewal, Iyer, Krishnan & Sharma, 2003; Thaler, 2008). Furthermore, Monroe (1990) suggested that perceived value covers both acquisition and transaction value. Therefore, one of the perspectives when investigating perceived value is to divide it into different values which are: acquisition; transaction, and in-use value (Parasuraman & Grewal, 2007). Acquisition value refers to the overall benefit gained from a product and the amount of time spent in using it. Transaction value focuses on the psychological gratification a consumer gets when buying a specific product at a price he/she considers lower than the price he/she thought to pay (Monroe & Chapman, 1987). In-use value refers to the value consumers get while using a product which then leads to continuous consumption of that product or termination (Parasuraman & Grewal, 2007) .These mentioned types of values can be understood as stages of perceiving values.

Another important type of value is known as functional value. This relates to superiority when comparing it with other alternatives (Sheth, Newman & Gross, 1991). In the literature related to consumer behavior, availability, ease of use, output/input ratio, or convenience all explain the efficient task fulfillment (Holbrook, 1994). Social value refers to being approved by the society and enhancing self-image

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in front of other people (Bearden & Netemeyer, 1999). The significance of self-esteem as a form of social reputation is supported by many scholars (Bhat, Burkhard, O'Donnell & Wardlow, 1998; Holbrook, 1994; Sweeney & Soutar, 2001).

Emotional value is gained when feelings come from using a certain product (Sweeney & Soutar, 2001). Epistemic value explains an interest or knowledge that occur from a certain experience, and one of the main reasons for purchasing can be the curiosity to try a new product (Sheth *et al.*, 1991). It is claimed that when consumers are driven by epistemic value, they tend to go back to their pervious purchasing behavior as the curiosity has been satisfied.

Overall, findings on perceived value show its importance in predicting purchasing behavior of the consumers. This has become one of the key factors in marketing. The main attributes of perceived value have been discussed where they are directly related to green products, and understanding whether the consumers have a favorable or unfavorable perceived behavior of green products is a vital step to design a marketing strategy to attract more consumers to join the green market, as customers with different perceived values have different purchasing behaviors.

2.2.1 Relationship between Perceived Value and Purchasing Behavior

Recently, perceived value has been considered as a main predictor of purchasing behavior (Chen & Dubinsky, 2003; Hellier, Geursen, Carr & Rickard, 2003). Researchers found that the perspective of consumers' value can give them more desire to purchase a certain product and avoid searching for alternative products (De Ruyter & Bloemer, 1999; Grewal *et al.*, 2003; Hellier *et al.*, 2003). Previous studies used behavioral attitude when predicting loyal behavior (Duman & Mattila,

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2005; Gremler & Gwinner, 2000; Mathwick, Malhotra & Rigdon, 2001; Odin, Odin & Valette-Florence, 2001).

Additionally, in a research done by Yaacob and Zakaria (2011), it was discovered that generally, consumers get involved with green products in order to improve and benefit their environment. Sometimes, those consumers seek direct personal benefits such as consuming organic food to gain health advantages or using an eco-friendly air conditioner to save energy and hence spend less on electric bills.

To recap, the existence of a relationship between perceived value and purchasing behavior has been usually supported by many scholars who sense that the relationship is always positive; the more expectations consumers have on a specific product, the more that will reflect in their purchasing behavior of that product. Accordingly, consumers who choose to go green usually seek a higher perceived value from green products, and a positive perceived value translates to a positive purchasing behavior.

The development of the hypothesis came from the fact that green products tend to cost more during the manufacturing process compared to conventional products, therefore, they are more expensive (D'Souza, Taghian, Lamb & Peretiatkos, 2006; Mina-Okada & Mais, 2010; Royne, Levy & Martinez, 2011; Sønderskov & Daugbjerg, 2011). Hence, Chen and Chang (2012) advocated the suggestion that an increase in perceived value of green products makes consumers' skepticism on green products less and improves consumers' purchasing behavior. Therefore, this study implied that:

H1: There is a significant relationship between perceived value and

purchasing behavior of green products.

2.3   Environmental Concern

Relying on the early studies by Dunlap and Van Liere (1978; 2008), it is suggested that environmental concern refers to an overall attitude that impacts behavior indirectly. According to Crosby, Gill and Taylor (1981), environmental attitude can be defined as having a strong attitude to preserve the environment.

Another definition for environmental concern by Mat *et al.* (2003) suggests that it refers to an individual's level of concern towards the environment. In the mentioned research, the scholars were trying to discover whether environmental knowledge, environmental concern, ecological consciousness, consumer behavior and in nature-related activities among Malaysian teachers in Selangor had any relationship or not. They used seven (7) dimensions in their study to cover the environmental concern variable. These dimensions were biosphere, health, concern of waste, education, responsibility, wildlife and energy awareness to environmental technology.

Diamantopoulos *et al.* (2003) stated that environmental concern is a main predictor of people's decision-making process. He used three (3) lengths in his study to represent environmental concern as follows: (1) environmental knowledge; (2) environmental sensitive behavior; and (3) attitudes towards environmental quality.

In another study conducted by Kalafatis, Pollard, East and Tsogas (1999), environmental concern was described as consumers' consciousness about the dangers facing the environment and the depletion of natural resources. The increase of environmental concerned consumers can be reflected by the increase of green

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products purchasing behavior. Kalafatis *et al.* (1999) mentioned that environmental concern can influence certain behaviors and consumers can reflect that concern in their daily activities.

One of the aspects of environmental concern is individuals' interest in biophysical environment and the problems that it causes on consumers. Many researchers suggest that women have higher concern over environmental issues compared to men (Murphy, Kangun & Locander, 1978). It was also found that some consumers show environmental concern depending on the characteristics of the products, accuracy of the claims green products make, product information and benefits (Forkink 2010; Luchs, Naylor, Irwin & Raghunathan, 2010). Based on Barr and Gilg's (2006) study, it was mentioned that individuals who have more commitment to the environment prioritized environmental issues and showed more responsibility in playing their part to help the environment.

In general, environmental concern comes in many forms such as concern to the biosphere, concern of waste and energy awareness. For this concern to exist among consumers, they need to have some knowledge about green issues. Knowing about the dangers the environment is facing helps to awaken the awareness of the consumers because it can lead them to show self-responsibility and to perform their moral obligation to do their part in protecting the environment, hence choosing to go green.

2.3.1 Relationship between Environmental Concern and Purchasing Behavior

Environmental concern can usually be perceived as a significant predictor of green purchasing behavior. A person's concern about issues facing the environment

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resulted in important factors to predict environmental behavior such as recycling behavior (Arbuthnot & Ligg, 1975; Simmons & Widmar, 1990) and green purchasing behavior (Chan, 1996; Kerr, 1990; Ottman, 1992; Schlossberg, 1992). In past studies, environmental concern was considered as a unidimensional construct. The range goes from the lowest end (not concerned) to the highest end (concerned) (Milfont & Duckitt, 2004). Different researches investigated environmental concern such as Fritzsche and Dueher (1982) on the impact of environmental concern on the purchase of deodorant containers, as well as Kinnear and Taylor's (1973) study which aimed to explore the environmental concern's effect on attitudes towards phosphates in laundry detergents. Another example is Prothero and McDonagh's (1992) research which studied toiletries and Barr, Ford and Gilg's (2003) research, which examined recycled packaging.

Kaufmann *et al.* (2012) stated that environmental concern can have an influence based on the level of motivation to change the behavior and overcome the problem. Several studies suggest that environmental concern is a main factor in predicting green purchasing (e.g. Grunert, 1993). Besides that, Hines Hungerford and Tomera (1987) discovered an existence of a relation between environmental concern and pre-environmental behavior. The degree of environmental concern people have is related to their readiness to purchase green products (Biswas, Liecata, Mckee, Pullig & Daughtridge, 2000; Kaufmann *et al.*, 2012; Mainieri *et al.*, 1997; Schwepker & Cornwell, 1991).

Kaufman *et al.* (2012) argued that consumers who have big concerns over environmental issues tend to buy products based on what these products claim they can do to benefit the environment and vice versa. Additionally, Kim and Choi (2005)

suggested that green purchasing behavior is directly influenced by environmental concern. Accordingly, several studies highlighted the environmental attitude's relationship with environmentally related behaviors. In public, consumers show concern towards the environment by signing ecological petitions, or by showing their support to organizations that fight pollution. The results usually show a strong relationship between environmental concern and ecological behavior (e.g. Lynne & Rola, 1988). Nonetheless, some studies discovered a moderate relationship between these two variables (e.g. Axelrod & Lehman, 1993; Smith, Haugtvedt & Petty, 1994) or sometimes a weak relationship (e.g. Axelrod & Lehman, 1993; Smith *et al.*, 1994). Additionally, Mostafa (2009) found that attitude and environmental concern have an impact on consumers' green purchasing behavior.

Despite the many agreements scholars have made regarding the effect of environmental concern on purchasing behavior, some researchers argue that this relationship is subject to the degree of motivation consumers have which could make them change their behavioral practices. In other words, even if consumers are concerned about the environment, they would not necessarily show a favorable behavior to purchase green products if they were not motivated enough to do so.

Beckford, Jacobs, Williams and Nahdee (2010) and Cornelissen, Pandelaere, Warlop and Dewitte's (2008) study stated that environmental attitude influences green purchasing behavior of consumers. Mostafa (2009) uncovered that environmental concern and attitude could influence consumers' green purchasing behavior. Hence, the following hypothesis is suggested:

H2: There is a significant relationship between environmental concern and

purchasing behavior of green products.

2.4   Green Advertisement

Advertising is the main key to influence peoples' behavior and the choices they make, which plays a similar role to the influence of other individuals, governments, or businesses (Frame & Newton, 2007). It was during the 1970's when an interest in green advertising started where a more dramatic inflow of green claims in advertising was released, leading to more researches in this topic (Kilbourne, 2004). Currently, the purpose of green advertising comes from the importance of improving market strategies in a way that can help influence consumers' opinions successfully. This move comes from the fact that green products have to compete with extensive public skepticism, which makes it a challenging task to tone advertising campaigns correctly. The high level of researchers' interest led them to establish theoretical principles in their research to discuss the drawbacks of advertising. The focus on advertising research is diverse, and it is usually put into categories of green behaviors demographic to find the target groups effectively. A few patterns between socio-demographics and green consumer behavior were found, and the findings of some patterns are usually not found elsewhere (McDonald & Oates, 2006).

However, there is more research on the classifications of green advertising and little on the way audiences respond to these different types of advertisings. There is no exact definition of green advertising, however, for the sake of the literature, some criteria were suggested. One of the most significant criteria was found in Banerjee, Gulas and Iyer's (1995) study were they stated that green advertising can be defined

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when it consists one of the following criteria:

1. Discusses the relationship between a product or a service and the biophysical environment.

2. Promotes green lifestyle where a product/service is highlighted.

3. Presents corporates as environmentally responsible.

The Dominant Social Paradigm argument can help characterize the development of green advertising starting with its managerial reason to the side of social good. One of the main issues facing green advertising is the fact that corporations embed in the available social framework and cannot avoid the idea of having green advertising as a profiteering endeavor (Kilbourne, 1998). The Dominant Social Paradigm argument is the broadest research of green advertising because it is located in the broader background of social and political theories. Failing to get involved critically with issues facing the environment is considered the core of anthropocentric perspectives and it contributes to the desire of the society to escape biological determinism (Martell, 1994).

When Kilbourne (1998) linked these issues to green advertising, a new significance to the subject was given and resulted in opening new paths of review, bound to the efficiency of corporates. This resulted in marketing researches on green advertising being driven by the idea of enhancing the efficiency of the market, rather than engaging in the concept of general sustainability. Having this topic approached from an environmental studies' perspective can open a path to address this issue. Involving the CSR's side in green advertising brings the possibility of involving sustainable businesses to consumer relationships instead of being a response to the appearance of green consumers (Cox, 2008).

The classification of green advertising in different researches led marketers to experience more development compared to the early studies that only identified the demographics of the audience. More interest is being placed recently when different types of green advertisements are classified, which resulted in findings that green advertisements around the corporate visual identity has become broader, as only specific green products were studied in the early stages of green advertising (Kilbourne, 1998). The change on corporates' way of pitching green advertising can be credited to the increased desire for businesses to react to sustainability via green products marketing for the segment of green consumers. Nonetheless, promoting the image of a business relying on a certain product raises the chance of 'green washing', which explains the inaccuracy of fouls claims.

In their study, Carlson, Kangun and Grove (1995) applied a method to categorize green advertising; they ran an inclusive style to identify the construction of green advertising. However, this approach had a weakness as it identified the components of green washing on an observational base, which lacked empirical reliability. Focusing on observing deceptive claims in green advertising is a complicated task and necessitates certainty besides being irrelevant when the researcher tries to examine the public's perception.

Cox (2008) stated that researches that highlight the way green advertisement is perceived by the public have been overwhelmed with more complications than other methods to the issue. He also mentioned that research audience related its concern on the improvement of advertising's effectiveness instead of having in mind the social science perspective. Due to the occurrence of errors, the finding that links consumer behavior and purchasing behavior tend to usually come in a negative way. Yet,

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researchers who mentioned this issue tried applying other methods to observe the audience's perception.

In Edell and Burke's (1987) study, some critical issues which were highlighted during the study were revealed, having it being on public perceptions. It was concluded that consumers tend to build some judgments and feelings "also described as cognition" when exposed to a certain advertisement. This cognition impacts their attitude towards the advertisement and beliefs about the image of the corporation. When consumers' attitude on a specific advertisement is observed, differentiating between the cognitive evaluation of the advertisement and the feelings experienced when exposed to that advertisement becomes essential. Cognitive evaluations are the properties of the advertisement while feelings are properties of the individuals, and consumers tend to agree on the credibility level of the advertisement than on how that advertisement makes them feel. However, besides being influenced, feeling conveyed by an advertisement also has an effect on people's evaluation of the brand (Edell & Burke, 1987).

This literature review concludes that green advertising studies have been embarked largely in marketing, especially in recent years. This indicates that a large proportion does not always help in environmental studies. However, a significant amount of investigation in this field shows credible importance, which can assist in facilitating new understandings on the wider social context. Few studies have focused on green advertising from an ecological perspective because of the essential nature of this topic itself. Nonetheless, Anderson's (2013) book and Kilbourne's (1998) suggestion reveals the importance of uniting mass communication and studies related to the environment. Additionally, it shows the developing angles of this study, some

of which were never been attempted before.

2.4.1 Relationship between Green Advertising and Purchasing Behavior

Kong, Harun, Sulong and Lily's (2014) study revealed that shoppers' responses to green advertisements were predicted by their previous view on corporates' environmental concern. When their previous view towards corporations' environmental concern is positive, consumers tend to respond to the green advertisement in a favorable way, not only on the products offered by the corporates, but also to the corporate's image and its advertised message.

According to Rahbar and Abdul Wahid (2011), consumers' values can be formed by environmental advertisements, and these values can be translated in purchasing green products. Chase and Smith (1992) also added that environmental advertisement and product labeling influenced the purchasing decisions of around 70 percent of their respondents. Almost 50 percent of the targeted respondents in that research expressed little attention to some of the advertisements because they thought these advertisements are not reliable.

In general, consumers form judgments and feelings when advertisements are introduced to them, which in return impacts their attitudes towards the advertisement, leading to a certain belief on the advertised product (Batra & Ray, 1986; Zhu, 2013). It is thus important to explore the variances between consumers' affective reaction (consumers' feelings) from advertisement exposure, and cognitive response (consumers' judgments) towards the ad (Zhu, 2013). Based on the previous researches, consumers' affective responses are influenced by other advertisements, consumers' emotions and the current circumstance (Aaker, Stayman & Hagerty,

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1986). Therefore, how the consumers feel about the advertisement that they are exposed to will affect their assessment of the brand (Edell & Burke, 1987). The study of consumers' purchasing behavior and how it is affected by green advertising has been very comprehensive. Environmentally concerned consumers usually generate favorable behavior towards green advertising and environmental matters (Carlson, Grove & Kangun, 1993; Zhu, 2013).

Chan (2004) conducted a study in two Chinese cities, namely Guangzhou and Beijing, in which the aim of the study was focused on the effects of green advertisement. The results of that study indicated a strong influence of environmental advertisement on green purchasing behavior. Additionally, the respondents were given follow-up questions and the results indicated the importance of a well-supported claim to gain favorable attitude towards green advertisement. However, this can only be achieved if the messages were considered credible by the consumers. This discussion drives the third hypothesis of the study:

H3: There is a significant relationship between green advertisement and purchasing behavior of green products.

2.5   Eco-label

The term 'eco-label' indicates the products' environmental performance/ and Eco-labels are developed to avoid confusing consumers with the claims of environmental concern (Childs & Whiting, 1998). An eco-label highlights the whole life cycle of a certain product starting from the moment it was produced to the time it was distributed, then used and finally disposed. In 1978, Germany's Blue Angel program that was launched was the first program in this field. In later years, other

programs where held in different countries such as Environmental Choice (Canada 1988), Eco Mark (Japan 1989), Green Seal (US 1990) and Eco-label (EU 1993).

Rashid (2009) defined eco-labels as possibly attractive instruments that help to inform the audience about the effects their purchasing behavior could have on the environment. Broadly, there are two categories for eco-labels: a) self-declaration claims; and b) independent third-party claims. Products may contain terms such as "recyclable", "degradable", "ozone-friendly", "pesticide-free", "organic", and "environment friendly" and these phrases are shown on the products' packages.

The eco-labels are normally built on products' life-cycle approach. According to Teisl, Roe and Hick's (2002) study, there are market-based evidences that consumers usually respond in a favorable way to eco-labels, which subsequently contribute to a bigger market share. In an extensive research conducted by Thogersen (2002), respondents from four countries were surveyed, and most of them showed a positive response to eco-labels. Furthermore, Grankvist, Dahlstrand and Biel (2004) revealed that both positive and negative information of environmental outcomes that were given by eco-labels had influenced respondents' product preferences, especially respondents who have higher concern for environmental issues. It was also highlighted that some segments showed a favorable attitude towards products with eco-labels such as young respondents, graduates and women. Additionally, according to Loureiro and Lotade (2005), consumers from developing countries are not ready to spend extra on products with eco-labels compared to those who live in developed countries.

On the other hand, some studies proposed a nonexistent impact between eco-

labels and consumers' environmental concern (Wessells, Johnston & Donath, 1999). The significance of the eco-label is still not final, hence, Erskine and Collins (1997) concluded the difficulty of having a workable effective eco-label scheme, where in practice it could boost consumers' environment concern. Other studies even suggested a low correlation between eco-labeling and environmental concern (Magnusson, Arvola, Koivisto Hursti, Åberg & Sjödén, 2001). Even in the case of having consumers who trust and belief in a certain environmental label, they do not develop their concern from information overload (Jacoby, 1984).

Hence, the previous literature shows that using eco-labels is not always a determinant of a positive response from consumers. However, this uncertainty can be an interesting factor to be studied as there are different opinions in this topic. Besides that, this approach is new to the Malaysian market which is rapidly developing.

2.5.1 Relationship Between Eco-label and Purchasing Behavior

Most of the studies related to eco-labeling aim to find techniques to make them impact the purchasing behavior of green products effectively (D'Souza *et al.*, 2006; Sammer & Wustenhagen, 2006). The important matter for researchers is to recognize the effect an eco-label has on consumers, such as influence they have on the environment and whether consumers take eco-labels into consideration when they go through the decision-making process. According to Rashid (2009), awareness of an eco-label positively impacts consumers' purchasing behavior. Nevertheless, other studies suggested that despite consumers' recognition of eco-labels, their green purchasing decision do not get influenced automatically (Leire & Thidell, 2005).

Not many studies have explored the direct impact of eco-labeling and

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consumers' green purchasing behavior (D'Souza, 2004; Rashid, 2009; Whitson & Henry, 1996). Additionally, D'Souza (2004) stated that the body of literature is not rich in the topic of the impact of eco-labels on consumers' green purchasing behavior. For example, the Parliamentary Office of Science and Technology (2004) stated that markets that have consumers with little environmental concern are not suitable for studying eco-labeling. This ineffectiveness occurs due to consumers' distrust on eco-labels (Rahbar & Abdulwahid, 2011; Schwartz & Miller, 1991). Sometimes, consumers who do not trust eco-labels show ignorance to these labels and do not care much for the rules that permits manufacturers to have eco-labels (Cherian & Jacob, 2012).

Moreover, Rashid's (2009) study stated that eco-labels could be attractive tools to inform consumers about the influence of their purchasing decision on the environment. In order to assess consumers when they need to identify environmentally-friendly products, eco-labels were introduced to enhance green purchasing. The earliest eco-label schemes were introduced in the late 1977 in Germany's Blue Angel campaign as stated earlier. Currently, around 30 green label schemes are introduced around the world including Asian countries such as Japan, China, Singapore, Malaysia, Thailand and India.

The Malaysian business sector is no exception from responding to challenges that come out of consumers' demand to have green products. The Standards and Industrial Research Institute of Malaysia (SIRIM) introduced the Malaysian Green Label scheme in 1996. Before that, eco-labeling schemes were only associated with recycled paper, electronic and electrical gears that have no hazardous metals, degradable, energy conservation, biodegradable cleaning agents and agricultural

products (Rahbar & Wahid, 2010).

From the literature mentioned above, the influence of eco-label on purchasing behavior is clear, however this factor does not always translate to a change of behavior, as sometimes eco-labels can be available to consumers but due to their low concern for the environment, their choice to go green does not appear. Overall, there is no one absolute answer on the impact of eco-label on purchasing behavior, thus this study aims to find whether that relationship exists or not.

Sammer and Wustenhagen (2006) conducted a study that examined the significance of eco-labeled products on consumer buying behavior. The research found a positive relationship between eco-label consumers' buying behavior. Thus, the arrives following hypothesis was derived:

H4: There is a significant relationship between eco-label and purchasing behavior of green products.

2.6   Products' Availability

One of the criteria that can have a big part in affecting consumers' green purchasing decision is whether these products are available or not (Aertsens *et al.,* 2009; Zakowska-Biemans, 2011). Regardless of widespread media coverage that green products could have, many consumers seem to have no information or sometimes little but ineffective information about green products and where to find them (Yiridoe, Bonti-Ankomah & Martin, 2005; Gottschalk & Leistner, 2013). In the studies related to household panels in both Denmark and Great Britain which was conducted by Wier, Jensen, Andersen and Millock (2008), the studied sample

indicated a confidence on green products if there were available information on how these products are produced and where to find them. Thus, consumers' knowledge about availability can play an important role.

Even when consumers are motivated to purchase a product that carries sustainable features, sometimes the unavailability of the product stands as a barrier in front of those consumers. This issue comes from the fact that local food shops and farmers' markets are decreasing in number, and this often results in lack of regularity and convenience demand by consumers. Additionally, green products are usually limited and in some cases are not properly located in shops and markets (De-Pelsmacker, Driesen & Rayp, 2003). In another study, it was shown that 52 percent of respondents had an interest to purchase green products, however, they did not go green due to the difficulty of finding these products (Robinson & Smith, 2002).

In a research conducted by Zakowska-Biemans (2011), the results highlighted the importance of making green products more available and accessible. Over 10 percent of the respondents in the study stated that the reason for not purchasing organic products was the scarcity of these products in their neighborhood shops. Moreover, 5 percent of the respondents indicated that organic products' shops they know about are usually far. Thøgersen (2009) explained that respondents from eight European countries showed their desire to purchase organic food, however, they all shared the same uncertainty when it came to finding places that sell these products (Becker, 2009; Verbeke & Roosen, 2009).

Another research that was conducted in Buenos Aires, Argentina, stated that green products were not easily found in the country besides the lack of common

national label constraints and a reliable regulatory system (Rodriguez *et al.*, 2008). Oughton and Ritson (2007) and Von-Alvensleben (2001) added that the reason why green products were becoming popular in Europe was due to the governments' support to have supply-side activities, which resulted in better pricing and higher availability.

Green products' availability is a factor that is out of the consumers' control. Hence, this research used it as one of the dimensions of perceived behavior control. From an overlook of related literature, it is found that few researches have been done on green products' availability, however, as discussed previously, it can be concluded that from the few studies done on this variable, it is found that consumers generally agree that a high availability of green products can help them make positive decisions to purchase green products. With the difficulty of finding green products, it is essential for marketers to apprehend that in such a fast moving era, consumers have less time to go shopping, and thus may not be able to go green due to the scarcity of green products in their daily stores' shelves.

2.6.1 Relationship Between Products' Availability and Purchasing Behavior

Some studies suggest that one reason for consumers not being able to find green products is partly because they do not have enough information on that regard (Brown & Wahlers, 1998; Kaufmann *et al.*, 2012). Some studies stated that the unavailability of green products in stores is one of the biggest obstacles consumers face when they intend to perform a green purchase (Byrne, Toensmeyer, German & Muller, 1991; Davies, Titterington & Cochrane, 1995).

According to Vermeir and Verbeke (2006) consumers are usually motivated to

buy green products, however their desire is usually not translated to real action due to the scarcity of these products. Mainieri *et al.* (1997) went further in explaining this issue by stating that one reason for consumer' lagging awareness towards environmental products is their insufficient availability together with the poor marketing of these products. Furthermore, researchers agree that one main tool to turn consumers to environmentally-friendly consumers is to make green products easy to reach besides having more environmentally and socially responsible corporates (Kaufmann *et al.*, 2012).

Besides that, it is also important to highlight the importance of having genuine environmental claims, and that companies that support this green movement should avoid confusing the consumers to build trust and motivate people to start purchasing green products. Together with what was mentioned, Ismail and Panni (2008), Ismail, Panni and Talukder (2006) and Panni (2006) added that these approaches are not effective unless green products are available and consumers could easily find them without having to spend extra effort to do so; such a thing can play a key role to get consumers to participate in pro-social/pro-environmental behavior.

Low availability of green products has led to a weak performance on green products sales. Many scholars agree that product availability has a direct impact on consumers' purchasing behavior, especially when talking about green products. However, this may not always be the case, as consumers who choose to support environmentally green products should probably know the difficulty of finding these products, and when they purchase green products, they might keep in mind that they have to spend a longer time to find these products, or they have to go to specific stores that adopts the green concept.

The model of purchasing decision process suggests that consumers are eager to purchase products that could save their time. Thus, product availability leads to a favorable purchasing behavior (Engel, Miniard & Blackwell, 1995). Furthermore, in her study, Shahnaei (2012) found that product availability has an influence on purchasing green products. Based on this statement, it is implied that:

H5: There is a significant relationship between green products' availability and purchasing behavior of green products.

2.7 Price of products

Price has been simply defined as cost in traditional economics, however, recent studies recognized that price serve to inform people about the value of the good or service (East, 1997). It is one of the attributes of a brand, in which it is associated to how this brand is perceived, specifically in relation to the products' value in the eyes of its consumers (Batey, 2008).

Haque, Khatibi, Raquib and Al-Mahmud (2007) said that usually, a price dominated mass-market results in consumers having more choices and the chance of comparing the pricing structures of various products. Hence, it is difficult for marketers to charge higher prices than what customers are willing and able to pay (Kaapanda, 2012). Price conscious individuals usually do not have the will to spend on a product if they realize that the price is not reasonable (Ismail, 2009). However, Kollmann (2000) stated that variable charges are the most important thing for the decision of the customers.

Price is considered one of the most influential factors in the green marketing

mix. Many consumers show readiness to spend extra if they have the perception that the bought product carry extra value. This value comes in the form of a better taste, a more creative design, improved performance, a more attractive visual appeal or an enhanced function (Sharma, 2011).

When products are considered green, they eventually end up being expensive compared to regular products. This increase in price comes from the fact that these green products are processed from costly raw materials, components that are not harvested easily, or use rare materials in their production (Chekma, Wafa, Igau, Chekima & Sondoh, 2016). According to Gleim, Smith, Andrews and Cronin (2013), the high price of green products could play a big impact on consumers' purchasing decision. Relying on opinion polls, many researchers found that some consumers have high concern over environmental issues, however when they reach the cash register, they end up not having a single green product in their cart due to their high price (Bonini & Oppenheim, 2008; Mainieri *et al.*, 1997).

Since the early existence of trade in human history, price has always been a way of informing consumers of the value of a product or a service. Since price is one of the tools that consumers have no direct control on, this study chose to list it as one of the dimensions under perceived behavior control. This factor is one of the four P's that every marketer learns about, and plays a major role in the products' success or failure. As consumers are increasingly being price sensitive and with the many choices available in the market, price is one of the indicators to shape their purchasing decision.

2.7.1 Relationship Between Price of Products and Purchasing Behavior

Price and cost savings are closely related to any purchasing process (Gummesson, 2008). Even with an environmentally conscious consumer, price is an important factor and could make the consumer avoid buying green products (Peattie, 2001). Remarkably, price has a big influence on green purchasing. According to Pedro-Pereira-Luzio and Lemke (2013), even when a product is in the expensive category such as washing machines or cars, not many consumers pay attention to environmental characteristics if they find themselves forced to pay premium prices. Surprisingly, consumers who paid extra for green products spend on products that are categorized in the lower cost category such as recycled paper bags.

As mentioned earlier, Fotopoulos and Krystallis, (2001) revealed that in the green marketing mix, price plays an important role. Sometimes, when green products do not come with higher price than ordinary products, they tend to achieve smaller market share (Verhoef, 2005). However, this is only true when these green products offer the consumers higher quality as high price comes from high quality demand and vice versa (Fotopoulos, Krystallis & Ness, 2003). In the green products' literature, income is usually related to the purchasing behavior of green products. When the income is higher, more people tend to purchase green products (Lockie, Lyons, Lawrence & Mummery, 2002; McEachern & McClean, 2002; Storstad & Bjørkhaug, 2003). However, Van-Doorn and Verhoef (2011) controverted such outcomes when they could not come up with an effect of income on green purchasing behavior. Yet, the researchers failed to highlight the fact that majority of households are generally not aware of the importance of purchasing green products, which concludes that having a strong purchasing power is a critical boundary condition (Van Doorn &

Verhoef, 2011).

With the high price sensitivity consumers have, price has become a main influencer on the purchasing behavior of green products. However, in the Malaysian context, and under the green products category, the deal might be different. As mentioned in the previous chapter, green products in Malaysia are viewed as luxurious products, hence consumers expect a higher price when they purchase green products compared to regular products. This study helps in finding whether these facts about price affects Malaysians' purchasing behavior of green products.

Consumers may avoid purchasing green products when these products cost more compared to conventional products as price influences consumers' decision when purchasing green products (Blend & Van Ravenswaay 1999; D'Souza et al., 2006). Price has always been an indicator of purchasing behavior of green products, and this factor affects the green purchasing behaviors of the consumers in a positive way (Boztepe, 2012; Kaufmann et al., 2012). Hence, the following hypothesis suggests that:

H6: There is a significant relationship between price of green products and purchasing behavior of green products.

2.8   Green Trust (Moderating Variable)

Generally, trust refers to individuals' will to make risky decisions by exposing themselves to others (Svensson, 2005). Moreover, trust has the ability to influence different social interactions that are related to being uncertain or dependent (Esmaili, Desa, Moradi & Hemmati, 2011) and this makes trust relate directly to people's

intentions to behave in one way or another. These actions show how the individual is confident about others (Geyskens, Steenkamp & Scheer, 1996; Olmos, 2011).

Trust also indicates the willingness to rely on another party with a positive attitude (Donald & Conchie, 2009; Man, 2006). This definition has shown many aspects of trust. First, trust is a social phenomenon (Luhamann, 2000; Sztompka, 1999). Secondly, it relies on the expectation that a party is going to act benevolently towards the other (Tzafrir & Dolan, 2004). Trust can also refer to consumers' strong belief that the other party is honest, truthful and just in meeting their expectations (Amarjit, Flaschner & Shachar, 2006).

The most common perceptions in previous studies show trust as being associated with beliefs (Anderson & Narus, 1990; Doney & Cannon, 1997; Law, 2007). In addition, the literature has assured the importance of some aspects that determine the level of confidence shown by a consumer to the organization. First, trust relies on how honest an organization is with its consumer (Doney & Cannon, 1997). Secondly, previous researchers have shown that the level of benevolence shown by the company is related to confidence shown by their consumers. The third element is perceived competence, particularly the ability perceived by consumers in their company – in other words, the extent to which companies can achieve the consumers' expectation (Flavia´n, Guinaliu & Torres, 2006).

In relation to this study, Chen and Chai (2010) defined "green trust" as "the willingness to depend on one object based on the belief or expectation resulting from its credibility, benevolence, and ability about environmental performance" which is a novel concept that has not been introduced before. According to Krystallis and

Chryssoihoidis (2005), consumers tend to have the will to pay extra on products when they have trust on the product, its quality, and the brand itself, and this factor has a bigger influence than other factors such as socio-demographic variables or price (Dimitri, 2003). Hence, one of the reasons people avoid green products could be directly related to lack of trust, as consumers might value green products but do not have enough trust on the environmental claims which drives them away from this market (Conca, Maniates & Princen, 2002; Guthman, 1998).

Manufacturers implement eco-labels on the packaging of their green products to help their consumers identify these products easily, hence, trust on these labels is supposed to assist consumers in making informed decisions and give them the ability to align the value they seek with their actual behavior (Kiesel & Villas-Boas, 2007). When consumers trust the product's label, this should mean that they are putting their faith on a stable standard. However, eco-labels have been developing over the past few decades and have always been subject to changes in terms of what they represent or what they mean, which usually confuses consumers (Bergès-Sennou & Waterson, 2005; Park & Lohr, 2006).

Consumer trust is a major subject for green purchasing and what it claims due to these claims falling under credence claims (Darby & Karni, 1973). While products generally are classified based on personal use, credence claims to have accepted pre-using the products, and they should feel the claim to be true. For example, Nelson (1970, 1974) mentioned that a consumer could buy a can of tuna and make sure that the tag shows the real price by referring to the supermarket or even to its source. Then, they can make sure the claim that it tastes good is true when the tuna is consumed. However, consumers would not be able to directly know if the tuna was

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caught without harming dolphins (Bottega & De-Freitas, 2009). In this case, consumers must decide whether they trust this claim or not. In such situations where consumers are not sure, trust comes in as a simple tool to bridge the gap, and when this happens, consumers will more likely accept the claim and consider it honest or credible.

Sometimes, buyers find little information when they try to evaluate a certain product or service. This could happen when information is not perfect, unclear, or misleading. In this case, consumers tend to seek signals to guide them through the process (Darby & Karni, 1973; Kirmani & Rao, 2000; Nelson, 1970, 1974).

Sellers usually offer different types of signals to build consumers' trust on a product, such as offering warranties, promotions, or price discounts or advertisements (Bloom & Reve, 1990; Boulding & Kirmani, 1993; Cason & Gangadharan, 2002; Erdem & Swait, 1998; Ford, Smith, & Swasy, 1990; Kirmani & Rao, 2000; Nelson, 1970, 1974; Rao, Qu & Ruekert, 1999). However, to make those signals work effectively, consumers need to see them as credible and useful at the same time (Boulding & Kirmani, 1993). This is because buyers are ready to find information about a certain product, but they will only do so if they know that the amount of time and effort spent to do so is worth it.

In relation to what was mentioned, advertisements come as a signal to decrease the cost of searching for a product and to deliver consumers the message they want to know about (Stigler, 1961). However, if this signal is not credible, consumers will not take it as a good source of information (Boulding & Kirmani, 1993). Applying signals in a form of an eco-label could give consumers some level of

trust on the claims and help build that trust (Hansen & Kull, 1994). However, this also depends on where the source of such claims come from and how far consumers trust that source.

Through the review of related literature regarding the trust factor, it is proven that the role of trust is very important in business. Therefore, green products should be well produced in a way that meets consumers' expectations to build trust over time because consumers' trust is easy to lose and hard to gain. Thus, companies that produce green products should generate consumers' long-term faith in green products' credibility.

2.8.1 The Role of Green Trust as a Moderator

It has been discussed that researchers in the field of business have suggested trust as a vital ingredient in successful marketing. Similar to other areas of research (Cummings & Bromiley, 1996), marketing researchers conceptualized trust by either concentrating on trust as a belief or as a behavior.

Previous work has recognized that an individual's belief and behavior are dependent on trust (Chou, Lee, Chang & Lin, 2009). Furthermore, Esmaili *et al.* (2011) indicated that trust is a significant factor that assists in stimulating consumer behavior toward buying products or services, and thus supports the behavioral concept of trust. As previously mentioned, trust refers to the readiness to depend on another party; in this manner, behavioral intention is emphasized. The role of green trust as a moderator can be described in two ways. First, Fishburn (1989) and Friedman and Savage (1952) proposed that a decision maker chooses an uncertain and a risky behavioral option by assessing the predictable value of the outcome from the

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behavior, which means evaluating the result of future behavior. In line with this, trust also influences how one interprets the past or present actions of the other party, and the incentives underlying the actions (Brunetto & Wharton, 2007). Second, Blau (1964) suggested that people engage in a transaction that they believe is transacted justly (Sharma, 2008). This conceptualization of trust as a belief concentrates on confidence. Thus, an expectation arises on the result of the behavior that has been taken in an uncertain situation (Paulssen & Sommerfeld, 2004).

This research follows the expectation of conceptualization of trust. Since trust keeps a distinction between expectations and behavioral intention, this provides the opportunity to study green trust processes as a moderator variable between the IV's and the DV. By reviewing the literature regarding the moderating role of green trust between the studied variables in this research on green purchasing behavior, it appeared that there were no exact studies in this context. However, there are some studies that examined the influence of trust as a moderator in different areas that are similar to the present study. For instance, research carried out by Parayitam (2005) investigated the moderating effect of trust between conflict and decision. The result revealed that trust is an effective moderator between conflict and the final decision. Furthermore, Walz and Celuch (2010) investigated the moderating effect of trust between perceived qualities of retailer commendation on consumer support behavior through level of consumer trust in the seller. The result showed a significant role of trust in the relationship between the IVs and the DV.

Trust also works as a moderator alongside other variables. For example, a study investigated the moderating role of trust and social support on the relationship between perceived organizational politics and job satisfaction, organizational

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commitment and stress. The finding revealed that trust acts as a moderator between the IVs and DV variables (Gadot & Talmud, 2010).

In general, trust can be an important determinant of social interactions where reliance and suspicions are present. The researcher examined the trust variable to know how it provides the atmosphere, which favorable attitude, perception and behavior to purchase green products in Malaysia is encapsulated, and the likely result that could occur. In other words, when Malaysian buyers have more trust on green products, they are more likely to purchase them and vice versa. According to Baron and Kenny (1986), moderators play a role in strengthening relations between a DV and IV variables, and it also has the ability to switch its direction. In this context, the relationships between the DV and IVs could be different based on the function of the moderating variable of trust. Researchers view trust as an essential variable due to its ability to push consumers to take risks on what benefits they might get from performing a specific purchase (Galli & Nardin, 2002). This kind of estimation forms the behavior of the consumer toward a service or a product. In line with this, it is likely that the green trust variable moderates the relationship between perceived value of green products, environmental concern, green advertisement, eco-label, and the purchasing behavior of green products.

In the last two decades, marketing practitioners and researchers have increasingly concentrated on the issue of consumer trust. However, despite the high rate of research quantity, there are few findings regarding trust when comparing this variable to other widely used variables such as satisfaction or loyalty (Sichtmann, 2007).

Consumers' propensity to trust can be seen as an attitude that drive someone to trust others (Morrow, Hansen & Pearson, 2004). This propensity to trust is sometimes described as personality-based trust (Rotter, 1980) or a personal trait (Johnson & Grayson, 2000). In addition, marketing strategies cannot easily influence these traits (Kenning, 2008). Individuals tend to think of messages as trustworthy when their general attitude towards others is trusting, while those who do not trust others much tend to be more skeptical (Gurtman & Lion, 1982). Mayer *et al.* (1995) hypothesized in their study that certain trust can be influenced by the general propensity to trust, however, when Kenning (2008) conducted a similar study, his results contradicted these findings. These different findings show that corporates could end up with different results when testing consumers' trust, based on their propensity to trust.

Hence, consumer trust has been proposed to have a moderating effect on the relationship between perceived value, environmental concern and purchasing behavior of green products. Moreover, it has a similar effect as a moderating factor on the relationship between consumers' subjective norm that is represented in this research as green advertisement and eco-label. Therefore, the following hypothesis is proposed:

H7: The relationship between perceived value, environmental concern, green advertisement, eco-label, and consumers' purchasing behavior of green products is moderated by green trust.

2.9   Theoretical Underpinning

The discussed variables are obtained based on the understandings of theories developed by Azjen and Fishbein since 1975 until the early 1990's which highlighted

the correlation between attitude and belief and how it leads to performing a desired a behavior.

2.9.1 Development of the Theory of Planned Behavior

The Theories of Reasoned Action (TRA) and Planned Behavior (TPB) are the two most popular models used to study behavior. The TPB which was proposed by Ajzen (1985;1988) was derived from the Fishbein and Ajzen's (1975) and Ajzen and Fishbein's (1980) TRA. In the TPB, perceived behavioral control was added to determine intention and behavior alongside attitude and subjective norms which existed in the earlier theory. The TPB has its origins in the early expectancy-value theory (EVT), which was the root of the TRA which then developed into the TPB.

TPB has been tested on many different kinds of behaviors, and always came up with positive results in assessing social-psychological theories. Its wide approval comes from the amount of variance it has to explain intention and behavior. 185 different studies that used TPB were reviewed and it was found that 39 percent variance in intention was accounted to the TPB while actual behavior had an average of 27 percent (Armitage & Conner, 2001). Another benefit from using this theory is its ability to build an integrated model with many factors linked to behavior.

The TRA was conceptualized by Fishben and Ajzen (1975) which first originated with EVT. The first EVT was introduced at the University of Michigan by social scientists in the 1950s (Eagly & Chaiken, 1993). Despite Fishbein (1963) and Fishbein and Ajzen (1975), we introduced it as a comprehensive theory.

2.9.1.1 Expectancy-Value Theory (EVT)

According to Eagly and Chaiken (1993), this theory offers researchers a model that could help to comprehend the correlation between attitudes and belief. When Fishbein (1963) first presented the expectancy-value theory, he suggested that an individual's attitude is a determinant of his beliefs, which are portrayed as the total expected values of the attributes credited to the attitude. Expected values are made of value and expectancy. Value refers to an individual's assessment of the particular value placed on that outcome, while expectancy considers value as the certainty that a specific behavior will result in a specific outcome (Ajzen & Fishbein, 1980; Eagly & Chaiken, 1993). In order to predict an attitude, the value and expectancy linked to every attitude are multiplied and summed. Therefore, the value of an attitude is the aggregate of evaluations related to specific traits imputed to the attitude object.

This theory suggests that a person will have the motivation to behave in a certain way, which will lead to a highly valued result. On the contrary, when someone thinks that the results of his behavior will hold little value, the motivation to act in that way will be less. Beliefs, valuations and attitude are directly measured, while the relationship between attitude and behavior could be tested using any standard attitude scaling procedure, such as semantic differential, Guttman scaling, or Likert (Ajzen & Fishbein, 2008).

2.9.1.2 Theory of Reasoned Action

Despite the expectancy-value model being applicable to behavioral studies, most of the later work with EVT was tested under the TRA framework (Ajzen & Fishbein, 1980), and the later model of TPB (Ajzen, 1988; 1991). A big literature

volume suggests that intention and behavior are mostly studied using either TRA or TPB.

TRA suggests that behavior is directly influenced by intention which is influenced by attitude and subjective norms. The theory was introduced to better explain the correlation between attitudinal beliefs, normative beliefs, intentions and behaviors (Fishbein & Ajzen, 1975). With the variables in TRA being used in the TPB, the individuals construct to this study are later discussed under the TPB section. The graphical presentation of the TRA model is displayed in Figure 2.1.
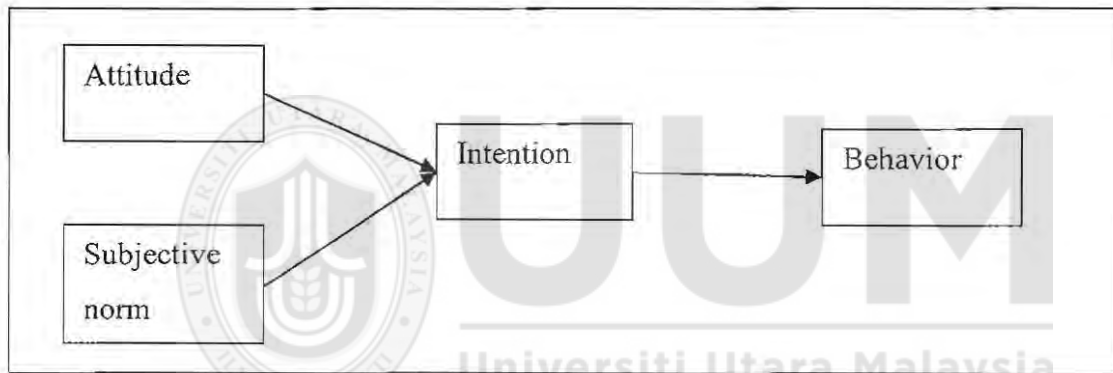
Source: Fishbein and Ajzen (1975)
Figure 2.1
Theory of Reasoned Action Model (TRA)

The TRA model depends mainly on someone's motivation to be involved in a specific behavior. It suggested that intention is the best tool to predict a person's behavior. When there is a strong intention, it is more likely that a person will successfully engage in that behavior. "Intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are willing to exert in order to perform the behavior" (Ajzen & Fishbein, 1980).

On the other hand, intention is determined by attitude and subjective norms.

Attitude refers to someone's desire to perform a certain behavior, while subjective norms reflect someone's opinion on how others think about him/her performing a certain behavior and how motivated they could be to do so (Ajzen & Fishbein, 1980). TRA suggests that when someone thinks a certain behavior will lead to a positive outcome, the referents will be encouraging and approving this behavior, resulting in a positive intention which in return leads to the desired behavior.

TRA was acceptable in explaining straightforward behaviors, however, the model was not accurate enough when there were limitations in the suggested action. This resulted in failed predictions of behavior due to scarce abilities or resources, and even when the intention was strong, that would not result in the desired behavior. Having a new variable that explains perceived behavioral control thus became an important step needed to be taken (Armitage & Conner, 2001). Hence, Ajzen (1985; 1988) came up with this construct as an additional variable to help predict intention and behavior. PBC refers to an individual's belief that performing a certain behavior could be either difficult or easy (Ajzen, 1985; 1988). This construct was introduced to deal with factors that represent either difficulties or opportunities to achieve the target behavior. The understanding of how these opportunities or difficulties are available and having the proper skills to behave in the desired way explains the level of perceived behavioral control.

Madden, Ellen and Ajzen (1992) conducted a comparative research where they tested the difference between intention and behavior in TRA and TPB under ten different behaviors. The results showed that TRA was accurate when the behavior was conducted under controllable factors. When there was no option over the control, TPB proved to be more effective than TRA in predicting the desired behavior.

Besides that, Ajzen (1988) mentioned that TRA "was developed explicitly to deal with purely volitional behaviors". Hence, TRA can only be effective when simple behaviors are studied, where it is only required to have intention to successfully perform the desired behavior.

2.9.2 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is a well-accepted model, which dominated the social-psychological theories that study attitude and link it to behavior (Conner & Sparks, 1996; Armitage & Conner, 1999). When an individual has a great intention to participate in a desired behavior, he/she is more likely to perform that behavior. Intention is derived from attitude, subjective norms and perceived behavioral control, and these concepts which regulate intention and behavior will be discussed more in detail in the coming sub-sections. The theory still uses attitude and subjective norms to determine attitude, similar to the TRA. However, it also used perception of control to indicate someone's intention (Ajzen, 1985; 1991), and the role of intention is to predict behavior. Additionally, besides its contribution to the formation of behavioral control, perceived behavioral control has the capability to directly influence actual behavior (Ajzen, 1985; 1991) as shown in Figure 2.2
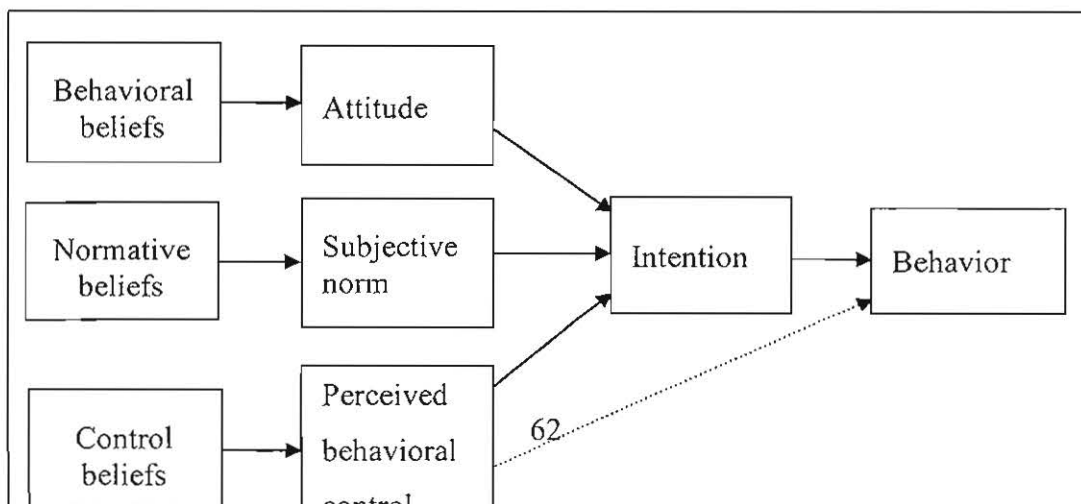
Source: Ajzen (1991)
Figure 2.2
Theory of Planned Behavior (TPB)

In TPB, every determinant of behavioral intention is portrayed as a tool that explains a person's belief. Therefore, the model suggests a role for attitude in influencing an individual's outcome beliefs; subjective norm in influencing referent beliefs; and perceived behavioral control in influencing someone's control beliefs. Besides that, TPB shows the direct role that perceived behavioral control could have on behavior, together with its indirect role by its impact on intention.

Early literature on TPB suggested that this model has been successful when tested on different situations to predict intention and behavior's performance. The theory is stronger in these predictions compared to TRA despite both theories being used in researches related to behavior (Madden *et al.*, 1992).

2.9.2.1 Self-Reported Past Behavior

TPB suggests a fundamental role for an individual's intention in predicting whether a certain behavior will be conducted or not (Fishbein & Ajzen, 1975). When someone's intention is stronger, it is more probable for him to perform the desired behavior. TPB's ability in predicting behavior relies on the level of intention he has besides the PBC's direct impact (Beck & Ajzen, 1991). Additionally, behavior of the past can also influence the behavior of the future.

Many researchers agree on the significant role that past behavior has on future behavior (Ajzen & Fishbein, 2005; Ajzen, 2010). This is assumed because when a behavior is repeated in the past, it turns to be a habit which rationally should have a strong effect on that behavior in the future. Over time, people build patterns to different conditions, and this proposes that past behavior will grow to become a certain pattern that would be recalled in the future (Tittle, 1980). Burnkrant and Page Jr. (1988) mentioned that former studies agree on the influence that past behavior has on future behavior, besides its effect on the rest of TRA's variables. Conversely, Ajzen (2010) has a different view in this matter, because he suggested that past behavior cannot be considered a causality. He added that past behavior does not have the ability to affect the performance of a subsequent action unlike the other variables listed in the TPB which does.

2.9.2.2 Behavioral Intention

TPB helps in predicting and understanding an individual's behavior (Ajzen & Fishbein, 1980). Attitude, subjective norms and PBC are mediated by intention, and the behavior is influenced by that intention. An individual's intention to behave in a certain way is a direct determinant for the actual behavior and embodies an individual's motive to take the required means to achieve the behavior (Ajzen, 2002). The intention in TPB highlights the motivation that inspires a certain behavior (Beck & Ajzen, 1991), therefore, intention tests an individual's willingness to try and the amount of effort they would put to come out with the desired behavior (Ajzen, 1991), or the discipline people have on themselves to push towards a specific behavior (Triandis, 1977). Hence, when an individual has a strong intention to participate in a behavior, he/she will be more likely to succeed in doing so.

Intention is used as a tool to test an individual's specific likelihood or willingness to participate in a certain behavior, however, it is important to highlight the possibility of the behavior being moderated by the direct influence of PBC.

Nonetheless, this present study will not include the moderating intention variable. Adding this variable requires a longitudinal section research. In longitudinal researches, the exact same respondents need to answer to the researcher in different periods of times, as this allows researchers to measure the changes in the respondents' behavior (Fraenkel, Wallen & Hyun, 1993). Taking such a step would be impossible to achieve especially when the respondents are selected randomly from malls, and their big number makes it even more difficult; thus, in the proposed framework, the intention variable was not included.

2.9.2.3 Attitude Towards the Behavior

TPB portrays that an attitude towards behavior depends on individuals' behavioral belief and relies on the level of positive or negative evaluation of the behavioral interest (Beck & Ajzen, 1991). When the EVT was introduced previously, it presented a framework that could help researchers understand the influence of an individual's attitude on behavioral belief. The expectancy outcome is the certainty that behaving in a specific way will lead to a specific outcome. The value of this outcome is the subjective value a person places on that particular outcome. This means that when someone recognizes that a behavior will lead to a desired outcome – in which he/she values – this person will have the motivation to complete that behavior (Armitage & Christian, 2004). This indicated that only valued outcomes could have an influence on a person's attitude.

Attitude towards behavior is an outcome of someone's strong belief, which embodies apparent outcomes or behavior of other traits (Conner & Sparks, 2005). Based on the view of the expectancy-value, outcomes are formed by the belief that performing a behavior will result in a specific outcome, and the assessment of the outcome itself.

According to Conner and Sparks (2005), the previous steps do not mean that a person will always calculate these steps when deciding to perform a desired behavior. Instead, people tend to memorize these considerations and use them when they are needed (Eagly & Chaiken, 1993). Ajzen (2012) indicated that it is reasonable to assume that attitudes come from saved memories. Though the EVT treats beliefs as accurate measures, the TPB suggests that beliefs can be influenced by several motivational or cognitive processes, and this could make it prejudice to selective information, resulting in an inaccurate measurement (Ajzen, 2012). However, when beliefs are molded they become easily available, and provides the cognitive basis for attitude to happen automatically in a reasonable manner.

In relation to the current study, according to Weigel (1983), attitude refers to a persistent set of beliefs about a specific object, which can drive individuals to behave in a certain way towards that object. It also refers to psychological inclination, which is translated in favoring or disfavoring a certain entity when being evaluated (Eagly & Chaiken, 1993; Urbig & Malitz, 2007).

Schultz and Zelezny (2000) argued that environmental concern is a form of attitude embedded in individuals' beliefs of being part of the surrounding nature. Attitude signifies consumers' likes and dislikes (Blackwell, Miniard & Engel, 2006)

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and their purchasing decisions usually depend on their environmental attitudes (Irland, 1993; Schwepker & Cornwell, 1991).

In the context of green purchasing studies, consumers' degree of self-involvement in protecting the environment may decide whether they could get involved in activities that are environmentally friendly or not (Wiener & Sukhdial, 1990). In their study, Tanner and Kast (2003) mentioned that purchasing green products is strongly explained by their attitude towards protecting the environment.

In the environmental studies' perspective, Hines *et al.* (1987) revealed that environmental attitudes can come in two forms. The first is "attitudes towards the environment" and the second is "attitudes towards a specific environmental behavior". They found that a low attitude-behavior correlation occurred when attitude is perceived generally, while a high attitude-behavior correlation occurred when attitude was perceived as a specific attitude towards environmental behavior. According to Schultz, Shriver, Tabanico and Khazian (2004), environmental attitude comes from the beliefs and attitude that an individual expresses towards issues and activities related to the environment. Schultz and Zelezny (1999) added that the level a person considers himself as being a part of the natural environment is part of the environmental attitude. Generally, environmentalists use the term 'environmental concern' to explain the attitude towards the environment (Vining & Ebreo, 1992).

In some of environmental studies, environmental attitude tends to have an influence on behavior such as in general environmental behavior (Straughan & Roberts, 1999; Kim & Choi, 2003; López & Cuervo-Arango, 2008), apparel purchasing behavior (Shim, 1995; Butler & Francis, 1997) and green purchase

behavior (Aoyagi-Usui, 2001; Kim & Choi, 2005; Tilikidou, 2007). Additionally, Follows and Jobber (2007) and Mostafa (2007) claimed that the consumers' actual green purchasing behavior can be influenced by attitudes toward green purchasing.

In most of the researches that have been conducted through the years, scholars usually find a relationship between attitude and behavior, and from the mentioned above, it is clear that attitude plays a major role in predicting individuals' behavior. Accordingly, in terms of consumers' environmental attitude, consumers who show a positive attitude towards the environment tend to show a higher degree of concern towards environmental issues. This is due to the fact that environmental attitude can predict their preferences, and hence their green purchasing decisions could rely on their environmental attitude.

2.9.2.4 Subjective Norms

Subjective norms are a form of social pressure on an individual to participate or not in a certain behavior (Ajzen & Fishbein, 1980; Beck & Ajzen, 1991). Ajzen and Fishbein (1980) defined subjective norm as a person's insight of the referent's expectation that a behavior would be performed or not, and how far this person finds himself motivated to behave in the way the referent would want him to do.

In their study, Lada *et al.* (2009) defined subjective norms as individuals' opinion of the pressure put by the society in order to convince him/her to perform a certain behavior in a certain way. It also serves as a function of beliefs that normative beliefs predict according to the advice of people (Thompson & Thompson, 1996). For example, an individual gets social pressure to behave in a certain way when people who have motivation on him/her think that he is supposed to behave in that way.

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Parental and peer influences are examples of social norms (Ong, Tim, Limn & Chyi, 2013). Additionally, Yahyapur (2008) defined subjective norms as the amount and type of pressure put on someone to influence him/her to perform a certain behavior.

Normative beliefs can be explained as the perceived behavioral expectations of referents. Salient normative beliefs underpin subjective norms, which is made of two gears: the referent's beliefs and motivation to comply. The referent's beliefs are someone's view of the social pressure to meet the referent's expectations (Ajzen & Fishbein, 1980). Normative beliefs related to peer pressure can lead to a general social pressure or subjective norms (Ajzen, 2012).

Several studies examined the predictive power of TRA and always found a small contribution from subjective norms on intention compared to attitude. This means that behaviors are controlled more by attitude than social influence (Ajzen & Fishbein, 1980; Ajzen, 1991). Trafimow and Findlay (1996) conducted a study and the results suggested that behavior and people can be controlled by attitude and/or norms. The results of their study also indicate that attitude plays a bigger role in influencing behavior and this was the case with 29 behaviors out of 30.

Another possibility for subjective norms to have a weak influence is that this indicator does not effectively test normative pressure. This comes from the fact that normative measures are not widely viewed (Sheeran & Orbell, 1999; Armitage & Conner, 2001), with Fishbein and Ajzen (1975) limiting subjective norms as measures of influence from social environment. Nonetheless, Turner (1991) had a different view to how social influence should be understood. He suggested that "social influence is the process whereby people directly or indirectly influence the thoughts,

feelings, and actions of others."

Generally, subjective norms have a major role in influencing consumer behavior. Hustvedt and Dickson's (2009) study concluded that subjective norm could be an important predictor of consumer behavior of eating organic food. Besides that, Kim, Kim and Kumar (2003) cited by Ong *et al.* (2013) agreed that subjective norm significantly predicted consumers' purchasing behavior in online apparel shopping.

2.9.2.5 Perceived Behavior Control

PBC is the third determinant that was added into the TPB to explain the uncontrollable side of influence that individuals face, which can be understood as how easy or difficult it is to perform a desired behavior (Ajzen & Madden, 1986; Ajzen, 1991; Beck & Ajzen, 1991). Behavior can be directed by the belief that some factors that could hinder the behavior do exist. PBC can affect behavior directly or by affecting intention first, including the obstacles that the individual could face when performing the desired behavior. This includes available resources, skills, or how difficult it could be to find a desired determinant that leads to the actual behavior.

The relationship between PBC and intentions explains the motivational side of control over the desired behavior via intention (Madden *et al.*, 1992). The direct relation between PBC and behavior explains the actual control an individual has, whether it is high or low. When someone believes he has the needed skills and resources (less hinders on his way), he will have high control (Ajzen, 1991). He explains this by stating that every controlling variable is measured by its ability to make it easier or more difficult to perform the desired behavior.

Many studies proved that PBC has the ability to influence both intention and behavior (Ajzen, 1991; Armitage & Conner, 2001). However, many others argued on the idea of having a control variable as the concept of perceived control, and how it could be misunderstood with self-efficacy and asked for a clearer definition (Giles, McClenahan, Cairns & Mallet, 2004). This comes from the fact that it is not easy to assume that a person's perception is under external factors that could compromise their judgment of whether performing the desired behavior is easy or not (Terry & O'Leary, 1995). For example, an individual may feel that no barriers are in his way, therefore, it should be easy for him to perform the desired behavior – however, at the same time, he could think that the behavior itself is difficult to perform (Manstead & Van Eeklen, 1998; Armitage & Conner, 1999).

TPB stated that when a consumer has a positive attitude, it is reflected in having stronger subjective norms and bigger perceived control on behavior resulting in the consumer being more likely to behave in the desired way. This statement is more credible when the consumer has real control on the performance (Ajzen & Madden, 1986; Sheeran, Trafimow & Armitage, 2003; Rise & Ommundsen, 2010).

Bandura (2001) studied human behavior for many years; he suggested that self-efficacy refers to an early belief that a specific task can be performed easily, which leads to the execution of that specific task. Everyone has this type of self-control, and what makes this self-control different from one individual to another depends on the level of easiness and difficulty people believe in. Therefore, Bandura like many other researchers concluded that perceived behavioral control is peoples' perception on the level of difficulty to execute a certain task.

Many reviews on TPB illustrated the importance of including PBC in predicting behavior (Ajzen, 1991; Armitage & Conner, 2001). In the review done by Armitage and Conner (2001), they listed 185 studies and found TPB responsible for 27 percent of the variance in subsequent behavior. The same review found PBC usually predicting the behavior on whether the effects of attitude and subjective norms are controlled or not.

To sum up the previous discussion, the importance of perceived behavior control comes from its strength in influencing consumers' decision-making when they have absolute control over a specific factor or not. The more consumers have control, the more this factor translates in their purchasing behavior, and the less control they have, the more these factors can negatively reflect on their purchasing behavior. In other words, perceived behavior control focuses on the level of difficulty to execute a certain act, and how much control individuals have over this factor.

2.9.3 Rationale for Applying Fishben and Ajzen's Theories

The antecedents of attitude, subjective norm and PBC are corresponding beliefs, reacting the underlying cognitive structure. Each behavioural belief links a given behaviour to a certain outcome, or to some other attribute, such as the cost incurred in performing the behaviour. The attitude towards the behaviour is determined by the strength of these associations, and by the beliefs that are salient at the time. This works on the principle of Fishbein and Ajzen's (1975) Expectancy-value Model: the subjective value of a given outcome affects the attitude in direct proportion to the strength of the belief. Subjective norm is considered to be a function of salient normative beliefs. While subjective norm relates to perceptions of general

social pressure, the underlying normative beliefs are concerned with the likelihood that specific individuals or groups (referents) with whom the individual is motivated to comply will approve or disapprove of the behaviour. Furthermore, Ajzen (1991) stated that control beliefs are the antecedents of PBC, and are concerned with the perceived power of specific factors to facilitate or inhibit performance of the behaviour. Like the other beliefs, the equation takes account of the relevance of the belief to the individual, in this case by taking a measure of the frequency of occurrence of the promoting (or inhibitory) factor.

Fishben and Ajzen's theories been proven to play a big part of the behavior's variance. Besides that, TPB is considered one the best leading models in studying attitude and behavior (Armitage & Christian, 2004). In context, when a consumer is environmentally concerned, believes in the perceives value from green products; believes on the credibility of green advertisements and the labels on green products; has the ability to pay the premium price or at least believes that the price of green products is justified and easily find those products in the market, then this consumer should find himself purchasing green products with no hesitation. Conversely, if a buyer has no concern over the environment, has a negative belief over the value of green products, does not believe in the reliability of green advertisements or eco-label, find the price of green products too high to pay for and cannot find green products easily, then he is more likely to have a negative behavior towards purchasing green products.

Many researchers suggest that Fishben and Ajzen's theories can be more effective if more constructs are included to the main model which would make it able to explain more (Lutz, 2011). Even Ajzen (1991) agreed on this and urged researchers

to include additional variables in the TPB model. Previous studies recommended adding variables believing it could improve the model's ability to predict behavior (Sheeran & Orbell, 1999; Bobek & Hatfield, 2003). This is another reason for this study to rely on the concepts that Ajzen proposed, given that the variables suggested and supported by previous research can be built into the model successfully.

In conclusion, this study's framework was developed from the understandings of Fishben and Ajzen's theories by taking the belief concept into the scenario of purchasing green products and proposing environmental concern, perceived value, green advertisement, eco-label, price of green products and green products' availability as the independent variables and purchasing behavior of green products as the dependent variable.

2.10   Theoretical Framework

Based on the above arguments, the research model as shown in Figure 2.3 was designed for the purpose of this research.
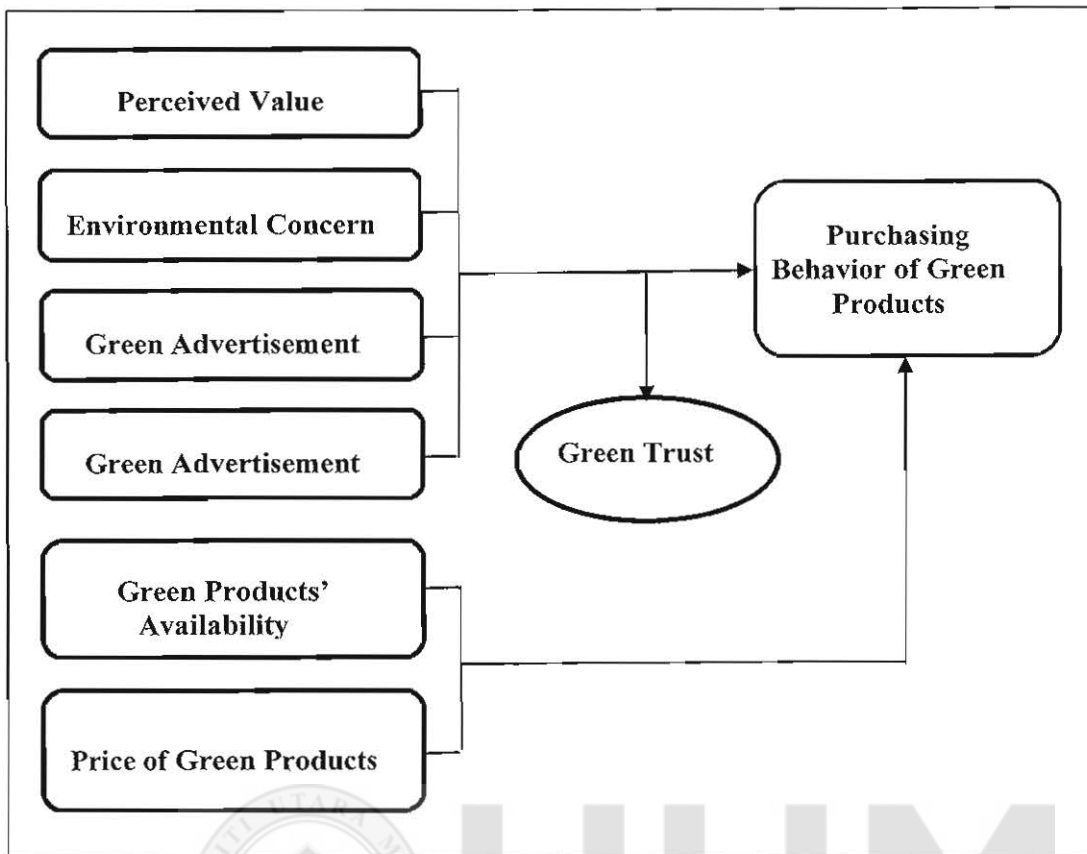
Figure 2.3
Theoretical Framework

The theoretical framework shows the purchasing behavior of green products, which is a dependent variable and is the critical variable in this research. The whole model is designed to discover the main predictors that affect the actual behavior of green purchasing. Furthermore, it explores the main determinants of decision-making among Malaysians.

The independent variables in this study are represented by perceived value, environmental concern, green advertising, eco-label, green products' availability and price of green products.

As shown in the research framework, green trust acts as the third factor in the research framework. It is proposed as having a moderating effect between perceived

value, environmental concern, green advertisements and eco-label, and purchasing behavior of green products. Many researchers confirmed the presence of two essential aspects that decide the degree of confidence shown by clients in an organization. First, trust depends on the honesty perceived by the consumer on the organizational performance. Secondly, researchers have found that the degree of organization benevolence on its customers is closely related to customer's trust (Flavia'n *et al.*, 2006).

Previous studies have documented that people's belief and behavior rely on trust (Chou *et al.*, 2009). Furthermore, Esmaili *et al.* (2011) stressed that trust can be essential in stimulating the behavior towards purchasing services or product and thus reinforce the behavioral conceptualization of trust. As previously defined, trust is the willingness to depend on another party in whom a person has confidence; in this context, purchasing behavior is emphasized.

The function of green trust as a moderator can be explained in two ways. First, Fishburn (1989) and Friedman and Savage (1952) suggested that a decision maker chooses a risky and uncertain behavioral option by evaluating the predictable value of the behavioral outcome. In other words, he assesses the outcome of the behavior. In the same context, trust also affects how one explains the past or present behavior of the other party, and the motives underlying the final behavior (Brunetto & Wharton, 2007). Second, Blau (1964) mentioned that individuals would engage in a transaction that they think is transacted fairly (Sharma, 2008). This conceptualization of trust as a belief focuses on confidence. Thus, anticipation appears from the result of the action that has been taken in an uncertain situation (Paulssen & Sommerfeld, 2004).

This research follows the expectation that conceptualization of trust and since trust keeps a distinction between expectations and behavior. This provides the opportunity to study green trust processes as a moderating variable between the independent variables and purchasing behavior which is the dependent variable in this study.

2.11 Chapter Summary

This chapter gives a detailed introduction to the literature of purchasing behavior of green products, and then defines perceived value, environmental concern, green advertisement, eco-label, green products' availability, and price of green products and illustrates the presence of mixed findings on the six independent variables. Additionally, this chapter highlights the role of green trust as the moderator to study the mentioned independent variables and purchasing behavior of green products, which is the dependent variable. The chapter also discusses the underpinning theory, which consists of the theories of Ajzen and Fishben and subsequently lists seven hypotheses that aim to answer the research questions that were stated in the first chapter.

CHAPTER THREE

METHODOLOGY

3.1   Introduction

This chapter presents the approach that was applied to test the variables in the framework of this study and its hypotheses. The purpose of the research's design is to facilitate an evaluation of the strength and direction of the relationship between the independent variables and consumers' purchasing behavior of green products with the moderation of green trust. The operationalization of variables is also presented in this chapter. Finally, the discussion of the research methodology is highlighted to help the researcher gain better findings.

3.2   Research Design

Zikmund (2000) defined a research design as a principal plan that lays out all the approaches and methods for gathering and assessing the required information. Leedy and Ormrod (2001) argued that the aim of a research design is to resolve the main problem of the research. They added that researchers choose one of these three (3) types of designs: qualitative, quantitative, and mixed methods. This is because they differ in the underlying philosophical assumptions made by them, the kind of research strategies utilized (e.g. quantitative experiments or qualitative case studies) and the specific techniques used in performing these strategies (e.g. gathering data quantitatively on instruments as compared to collecting qualitative data through the observation of a situation).

In qualitative research, researchers often examine what individuals or groups mean concerning a social or human problem. Thus, this method requires coming up with measures, collecting data in the research's location, analyzing data inductively, creating general themes, and eventually interpreting the meaning of the data (Creswell, 2007). On the other hand, quantitative researchers examine the association among variables through impartial theories. This method uses instruments that eventually assess these variables using numbered data, consisting of numbers to represent the characteristics of something through statistical procedures and analysis (Creswell, 2008). Mixed methods researchers, however, use an alternative approach where both qualitative and quantitative methods are used (Creswell & Plano Clark, 2007). As there are three objectives in social science research, which are exploratory, descriptive and explanatory (Zikmund, 2000; Sekaran, 2005; Babbie, 2007), researchers try to solve issues that are new, which address all kinds of research questions (e.g. answering the "what," "why", or "how"), and develop formal hypotheses.

In this present study, a quantitative design was used. This approach was taken because there existed relevant measuring tools, several possibilities of generalizing a problem, and hypotheses that could be tested (Williams & Monge, 2001). Leedy and Ormrod (2001) reiterated that the quantitative technique is the most beneficial and frequently utilized when the researcher aims to investigate or offer answers to questions regarding associations between measured variables through explicit explanation, prediction, and control of the phenomena. Given (2008) said quantitative researchers examined an observable phenomenon through computational techniques, then developed and utilized theories, mathematical models, and hypotheses relating to the phenomenon. Therefore, the quantitative approach is seen as crucial to

understanding the underlying relationships between empirical observation and variable relationships because a group of respondents is asked specific questions to produce a sample that contains numerical data from an observable phenomena (Zikmund, 2000; Sekaran, 2003).

The next section will discuss the research design in this study which involves population and sampling, data collection method, pilot test, operationalization and instruments of variables.

3.3 Population and Study Sample

The population of this study comprised of adult Malaysians from the northern region, namely Penang, Kedah and Perlis. Citizens from these three states are well suited for the purpose of this study because the respondents from these states have similar characteristics due to the environment they live in and their average income. Additionally, this market segment is considered as a huge opportunity for green product industries due to its high population. Finally, most of the studies related to green purchasing are conducted in major cities such as Kuala Lumpur and Selangor, and few have been done in the northern region especially in less developed states like Kedah and Perlis as mentioned in the scope of the study.

According to the Department of Statistics Malaysia (2016) the population of adults in Penang is (1,325,400), Kedah is (1,486,400) while in Perlis is (177,700), hence the total population of the current study is (2,989,500). For a population of over (1000,000), the minimum sample size of 384 is appropriate for research as determined by several researchers (Cavana, Delahaye & Sekaran, 2001; Krejcie & Morgan,

1970). Table 3.1 provides the generalized guideline for sample size decisions (Sekaran, 2003).

Table 3.1
Determining Sample Size of a Given Population

N	S
20000	377
30000	379
40000	380
50000	381
75000	382
>1000000	384

N= population size   *S*= sample size
Source: Sekaran (2003)

Since it is difficult for researchers to get a 100% response rate, it is suggested that the total number of questionnaires be increased by 40% to ensure a more accurate response (Salkind, 1997), hence the sample size was increased from 384 to 537, and Table 3.2 shows the distribution of questionnaires among the respondents in the three states. The oversampling was done to help make up any possible loss that can occur due to the existence of non-cooperative subjects and damages (Salkind, 1997). Furthermore, the oversampling helped to ensure that the non-response bias and non-response rate did not affect the results (e.g., Phokhwang, 2008; Sindhu & Pookboonmee, 2001; Ringim, Razalli & Hasnan, 2012).

Table 3.2
Determining Sample Size of the Study's Population

State	Population	Percentage	Sample Size	Sample Size * 40
Penang	1,325,400	44.3%	170	238
Kedah	1,486,400	49.7%	191	267
Perlis	177,700	6%	23	32
Total	2,989,500	100%	384	537

The present study used a systematic random sampling method by obtaining samples using a mall intercept technique as done by many researchers (e.g. Helgeson & Supphellen, 2004; Jackson, Stoel & Brantley, 2011; Khare, 2015; Mehta & Chugan, 2013) This method of collecting data gives the researcher the chance to interact with his respondents face-to-face and have a better screening (Green & Krieger, 1991). Bush and Hair (1985) argued that the mall intercept technique provides more complete responses and fewer distorted ones, and gives respondents who cannot understand some of the questions the chance to ask the researcher or his assistants. In addition, to avoid the wrong selection of samples, this study applied the random sampling technique.

3.4   Data Collection Method

Data collection is the step where the researcher identifies and selects the appropriate individuals to study, by first getting them to agree to participate in the study, and then to gather information by any of the accepted means such as asking them questions or observing their behavior (Creswell, 2012). This study used a mall intercept method as mentioned in the previous section where respondents were given surveys to fill in. A survey is a method of primary data collection based on communication with a representative sample of individuals (Zikmund, Babin, Carr & Griffin, 2013). Hence, the survey method of data collection that was employed in this study entails asking respondents (people) questions in the form of writing using questionnaires to collect data with the major goal of collecting a representative sample (Cavana *et al.*, 2001).

As mentioned earlier, this research used the random sampling technique. According to Tesco's website, there are an average of 5000 visitors who come to the hypermarket daily. Based on this, it was estimated N=5000 and the research requires a sample size of n=537. Thus, the interval size, k = N/n = 5000/537 which equals nearly 9. Hence, the researcher left the first eight consumers to leave the hypermarket and kept approaching the 9th consumers repeatedly. Respondents were requested to complete a questionnaire that contained measures of the constructs, and confidentiality was assured in order to get the most accurate and honest response from the tested individuals. In addition, the following factors were also considered by the surveyor whilst selecting samples for the study:

- Respondents are proficient in either English or Malay language in order to answer the questions.

-Respondents understand the term "green products" and have participated in purchasing them sometime in the near past.

- Respondents had purchased something from the hypermarket on that day.

- Respondents were comfortable and were given enough time to complete the questionnaire.

To confirm the questionnaire's reliability and validity, the questionnaire was pre-tested on 30 respondents who had just completed their shopping from one hypermarket in Kedah, TESCO Stargate. The researcher stayed with the respondents while they were doing the questionnaire to detect any wording difficulties, to answer the respondent's questions and to mainly check how easy or difficult it was to answer the questionnaire. It took around three minutes for every respondent to complete the given questionnaire. From the respondent's feedback, the researcher made some

minor wording amendments to the questionnaire and used the final version for distribution.

There were two hypermarkets (TESCO and GIANT) which served as the sampling frame to collect data among the population from Penang, Kedah and Perlis. In Penang, there are eight TESCOs and four Giants hypermarkets; in Kedah there are three TESCOs and one Giant hypermarket targeted, while in Perlis, only one Giant hypermarket is available. The reason for selecting these specific hypermarkets is due to their ability to pull big crowds on weekdays as well as weekends as mentioned previously. Furthermore, consumers prefer to shop in these outlets because they usually offer a variety of products from fresh produce to organic products to even electronics.

The researcher visited these outlets, and with the help of four research assistants (surveyors) (two in Penang, two in Kedah with one of them covering Perlis), the questionnaires was distributed. The questionnaires were distributed to the respective respondents on all seven days of the week from Monday to Sunday between 5pm to 9pm as these are the after-work times for most of the respondents and the peak time for these outlets falls between the mentioned time.

The researcher and the surveyors explained to the participants the purpose of this study, and the respondents who agreed to answer were assured of their anonymity.

3.5 Translation

The questionnaire is written in the English language and translated to the Bahasa Malaysia by a certified translator who is a fluent in both languages (see Appendix B).

3.6 Instrumentation

Most of the items used in the questionnaire operationalized by the variables in the theoretical framework are from prior studies. The association among the variables was assessed by data analysis that is useful for understanding which of the variables was more influential toward the purchasing behavior of green products. The present framework consists of the variables as explained below.

3.6.1 Purchasing Behavior of Green Products (Dependent Variable)

Purchasing behavior is the main objective of this research, which indicates the consumers' actual behavior to purchase green products. There are many studies that are developed by well-established theories that consider behavior as an essential dependent variable such as Ajzen and Fishbein (1980) and Ajzen (1991).

In the green purchasing context, many researches rely on consumer behavior as a dependent variable such as Lee (2009) and Kim and Choi (2005), who defined green purchasing behavior as the consumption of products that are beneficial to the environment, recyclable/conservable, or sensitive/responsive to ecological concerns. However, as explained in the previous chapter, the researcher noted that Fishbein and Ajzen's theory (1975) is the best to describe the way the researcher can operationalize "actual behavior".

In this study, the researcher utilized the purchasing behavior of green products as the key dependent variable. Items were adopted from Lee (2009), and Kim and Choi (2005) as shown in the following table.

Table 3.3
Items of Purchasing Behavior of Green products

Item No.	Survey Items
PB01	I buy green products.
PB02	I make a special effort to buy paper and plastic products that are made from recycled materials.
PB03	When I have a choice between two equal products, I buy the one less harmful to other people and the environment.
PB04	I make a special effort to buy household chemicals such as detergents and cleansing solutions that are environmentally friendly.
PB05	I avoid buying products that have potentially harmful environmental effects.

3.6.2 Perceived value

A number of studies have measured perceived value, used a variety of measurement methodologies and have observed a significant link between perceived value and purchasing behavior of green products (Rizwan, Ahmad & Medhboob, 2013). Perceived value refers to consumers' overall appraisal of the net benefit of a product or service between what is received and what is given based on consumers' environmental desires, sustainable expectations, and green needs (Kong *et al.,* 2014). In this context, this study has used different dimensions to measure the Malaysians consumers' perceived value.

The measurement of the perceived value of green products was adopted and modified from the study by Kong *et al.* (2014). Table 3.4 shows the items of attitude toward green purchasing.

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Table 3.4
Items of Perceived Value

Item No.	Survey Items
PV01	I get very good value from Green products' function.
PV02	I am satisfied with Green products' performance.
PV03	I purchase a green product because it has more environmental benefits than other products.
PV04	I purchase a green product because it has more environmental concern than other products.
PV05	I purchase a green product because it is environmentally friendly.

3.6.3   Environmental Concern

Many studies have tested the variety of environmental concerns to understand consumers' purchasing behavior of green products (e.g. Aman, Harun & Hussein, 2012). For this study, the researcher measured environmental concern by adapting the measurement from Suki (2013) and Zia-ur-Rehman and Dost (2013) using a five-point Likert scale ranging from (1) "Strongly Disagree" and (5) "Strongly Agree". The items on this scale are illustrated in Table 3.5.

Table 3.5
Items of Environmental Concern

Item No.	Survey Items
EC01	I am highly concerned about the environment.
EC02	I think environmental issues are consumers' responsibility.
EC03	I wish to see less packaging waste generated by processed products.
EC04	I am worried about how all of my activities affect the environment.
EC05	I believe that environmental issues are an emergency issue.
EC06	I often think about how the environmental quality can be improved.

3.6.4   Green Advertisements

Green advertising refers to the message that influences consumers' purchase behavior by encouraging them to buy products that do not harm the environment and

to direct their attention to the positive consequences of their purchase behavior, for themselves as well as the environment (Rahbar & Abdul-Wahid, 2011).

The measurement for green advertisement was adopted and modified from Zolait (2007), Kong *et al.* (2014) and Rahbar and Abdul-Wahid (2011) that used a seven-point Likert scale from (1) "Strongly Disagree" to (7) "Strongly Agree". However, for the purpose of consistency, the range was changed to a five-point scale as shown in Table 3.6.

Table 3.6
Items of Green Advertisements

Item No.	Survey Items
GA01	I have seen advertisement recommending the use of green products.
GA02	I believe advertising contributes to the knowledge about benefits of green products.
GA03	I trust green advertisements.
GA04	I think green advertisements are attractive.
GA05	I make proper purchasing decisions based on green advertisements guidance.
GA06	I enjoy watching broadcasts of green advertisements.

3.6.5 Eco-label

Eco-label is an information tool that usually utilized a logo to convey information to consumers on the environment implications of buying a product (Childs & Whiting, 1998; Kong *et al.*, 2014).

To assess the recommendation factor, six items were adopted from both Kong *et al.* (2014) and Morel and Kwakye (2012) and was measured on a six-point Likert

scale, where the extremes were (1) "Strongly Disagree" and (6) "Strongly Agree". However, for the purpose of consistency, the range was changed to a five-point scale where (1) "Strongly Disagree" and (5) "Strongly Agree". The items for this scale are shown in Table 3.7.

Table 3.7
Items of Eco-label

Item No.	Survey Items
EL01	I consider what is printed on eco-labels to be accurate.
EL02	I easily understand The information on eco-labels.
EL03	I'm satisfied with the information available on the eco-label of the green products I purchased.
EL04	I understand the information on green products.
EL05	I believe in the information on green products.
EL06	I appreciate the package/design of green products.

3.6.6 Green Products' Availability

The products' availability plays a critical role in shaping consumers' decision on whether they should purchase a specific product or not. In general, it seems that green products are difficult to find, and this could be an obstacle for consumers to go green specially since not every store provides environmentally-friendly products. Mainieri *et al.* (1997) stated that consumers' environmental consciousness might lag due to the scarcity of green products in daily stores.

The measurement for green products' availability was adopted and modified from Morel and Kwakye (2012) and Cottet, Lichtlé and Plichon (2006) that used a five-point Likert scale from (1) "Strongly Disagree" to (5) "Strongly Agree", which is consistent to this study. The items are shown in Table 3.8.

Table 3.8

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Items of Green Products' Availability

Item No.	Survey Items
PA01	I know where the green product displays are in my supermarket.
PA02	I easily find green products in my supermarket.
PA03	I am willing to buy green products if they are accessible/available in my supermarket.
PA04	I always find green products that I want to buy.
PA05	I find green products that I need easily.
PA06	Green products are easy to reach.

3.6.7 Price of Green Products

Price has always been an important factor to be studied in consumers' purchasing behavior, due to the high sensitivity of consumers when it comes to price.

The measurement for price of green products was adopted and modified from Suki (2013) and Trivedi, Patel and Savalia (2015) that used a five-point Likert scale from (1) "Strongly Disagree" to (5) "Strongly Agree". The items are shown in Table 3.9.

Table 3.9
Items of Price of Green Products

Item No.	Survey Items
PP01	I would choose environmentally friendly goods and services, campaigns or companies if the price were the same.
PP02	I'm willing to pay more for environmentally friendly products.
PP03	If the price of green products is less expensive I'm willing to change my lifestyle by purchasing green products.
PP04	To me, it is acceptable to pay more for groceries that are produced, processed and packaged in an environmentally friendly way.
PP05	I would accept paying more for an environmental cleanup program.
PP06	I would be willing to spend an extra in order to buy less environmentally harmful products.
PP07	I feel proud to have environmental friendly products in my house though they cost more.

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3.6.8 Green Trust

Trust in general means that a person is willing to take a risk, or expose himself, in relation to somebody else (Svensson, 2005). In addition, trust is an influential element in many social interactions that engage uncertainties and dependency (Esmaili *et al.*, 2011). Trust is deemed as an essential factor in the green products markets that relates to consumers' purchasing behavior. Furthermore, the latest studies found that trust is directly associated to consumers' purchasing of green products with various past investigations showing that consumers' behavior in purchasing green products is often influenced by people's trust in the value green products provide (Chen & Chang, 2013).

Based on this statement, the researcher hopes to reveal the role of green trust as a moderator variable on the relationship between consumers' perceived value, consumers' environmental concern, advertisement of green products, the eco-label of the green products, and consumers' purchasing behavior of green products.

The measurement of green trust items was derived from Chen and Chang (2013) using a five-point Likert scale starting with (1) "Strongly Agree" and (5) "Strongly Disagree". Table 3.10 shows the items for this scale.

Table 3.10
Items of Green Trust

Item No.	Survey Items
GT01	I believe that green product's environmental image is generally reliable.
GT02	I think that green product's environmental functionality is generally dependable.
GT03	I believe that green product's environmental claims are trustworthy.
GT04	The green product's environmental performance meets my expectations.
GT05	The green products keep promises for environmental improvement.

3.7   Questionnaire Structure

The quantitative method results are based on numbers and statistics that are presented in figures and measures data applied in many forms of statistical analysis (Hossein, 2007). Quantitative research design is carried out because it assists the researcher to examine deeply a large sample of respondent's opinions about the proposed phenomenon. Furthermore, the researcher can discover a precise perspective of human behavior (Lakshman, Sinha, Biswas, Charles & Arora, 2000).

For the present study, the questionnaire (see Appendix A) was designed according to the objectives, problem and hypotheses of the study to determine the relative importance of factors that may influence the Malaysians' purchasing behavior of green products. The questionnaire was the main tool used in this research to understand the consumers' green purchasing behavior.

The questionnaire contains two sections. The first section was designed to gather information about the respondents' demographic profile in terms of age, gender, race, level of education, place of residence and income. The second section consists of five parts. The first part comprises of purchasing behavior measured by five items from items 1 to 5. The second part measures two antecedents of purchasing behavior: perceived value was measured by five items from items 6 to10, and environmental concern was measured by five items from items 11 to 16. The third part measured two antecedents of purchasing behavior: green advertisement was measured by six items from 17 to 22 and eco-label was measured by six items from items 23 to 28. The fourth part measured two antecedents of purchasing behavior and comprises of green products' availability measured by six items from 29 to 34, and

price of green products was measured by seven items from 35 to 41. Finally, the fifth part measured the moderating variable, which was green trust, by five items from 36 to 40.

3.8   Content Validity

In order to refine and verify the instrument through which the necessary data was collected to evaluate the model under investigation by this study, the researcher conducted a pre-test with two groups: the first group consisted of three potential respondents, while the second group consisted of three academics from Universiti Utara Malaysia, College of Business, who were familiar with the constructs. The questionnaire of this study was carefully reviewed to guarantee the adequacy in its understanding, face validity, comprehensibility, and the validity of measures employed. The academic respondents primarily focused on content validity.

Both groups assisted in checking the extent to which each item reflected the proposed constructs, and whether the questionnaire's format and instructions were appropriate with the item statements and the chosen scale points. The feedback from the respondents indicated that the proposed questionnaire was easy to understand and could be completed within the suggested timeframe of three to four minutes maximum.

This feedback enabled the researcher to make several modifications as suggested by the experts, where some of the questions were rephrased to eliminate confusion and increase the quality of the data of the study.

3.9   Pilot Test

A pilot study is a small scale preliminary investigation made to assess feasibility, time and cost which helps to predict an appropriate sample size and improve the study design prior to the actual conduct of a full-scale study (Hulley, 2007). The importance of conducting a pilot study comes from the fact that its ability to show if the survey design or procedure has any shortcomings before resources and time is given to a large scale (Doug, Burton, Cuthill, Festing, Hutton & Playle, 2006).

For this study, the pilot study helped in: (1) determining the validity and reliability of the items; (2) assessing the adequacy of item-wording, phrasing and questions' construction to get accurate results; (3) evaluating the questions' frame in a way that could give better response; and (4) finding whether respondents could supply the needed data. The validity of the questionnaire is the extent to which it measures what it has to be measure and not measure something else, whereas the reliability of the questionnaire is the degree in which the questionnaire is free from errors and results are consistent and stable across time and contexts (Sekaran & Bougie, 2010).

Using the Statistical Package for Social Science SPSS version 18, the internal consistency of the constructs was tested. It was found that all the measures possessed a high reliability standard ranging from 0.784 to 0.920, where it was documented that the minimum values of the coefficient alpha was 0.7 (Nunnally & Bernstein, 1994). Table 3.11 depicts that all the items included in the study have a good level of internal consistency when measuring their respective intended measures:

Table 3.11
Reliability Analysis of Pilot Study

Construct	No. of Items	Cronbach's Alpha
Purchasing Behavior of Green products	5	0.787

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Perceived Value	5	0.920
Environmental Concern	6	0.882
Green Advertisement	6	0.784
Eco-label	6	0.897
Green Products' Availability	6	0.873
Price of Green products	7	0.904
Green Trust	5	0.818

From the table above, the results of the pilot study show that the values of Cronbach's alpha for the examined constructs are all above 0.70. Accordingly, given the established benchmark of 0.70, all the variables of the study are reliable, and there was no need to delete any item (Hair, Black, Babin & Anderson, 2010; Nunnally & Bernstein, 1994).

3.10   Methods of Statistical Data Analysis

To analyze the obtained data and achieve reliability in data analysis, this study used different statistical tools represented by SPSS version 18.0 and SEM, precisely Partial Least Square (PLS-SEM).

Given that this study examines in one model four moderating relationships simultaneously (i.e., the moderating role of green trust between perceived value and green purchasing behavior, the moderating role of green trust between environmental concern and green purchasing behavior, the moderating role of green trust between green advertisement and green purchasing behavior, and, the moderating role of green trust between eco-label and green purchasing behavior), using SEM technique to test this model was more appropriate.

SEM is the second generation technique which is used to overcome the potential limitations and analytical problems of measuring the relationships among variables, especially if the model is complex, like the one in this study (Haenlein &

Kaplan, 2004). Moreover, SEM is one of the most powerful statistical tools in the area of social science that has the ability to test several relationships simultaneously (Hair *et al.,* 2010). When applying SEM, researchers must consider two types of methods: covariance-based approach (CB-SEM) which consists of several different tools that can be used to do this sort of analysis, such as EQS, AMOS, SEPATH, COSAN, and LISREL program (Haenlein & Kaplan, 2004), and the variance-based approach or Partial Least Squares approach (PLS-SEM) (Haenlein & Kaplan, 2004; Hair, Ringle & Sarstedt, 2011).

Although both approaches (PLS-SEM and CB-SEM) share the same roots, previous researches have focused primarily on CB-SEM (Hair, Sarstedt & Ringle & Mena, 2012a). However, PLS-SEM application has expanded in marketing and other fields of business research and practice with the recognition that PLS-SEM's distinctive methodological features make it a possible alternative to the more popular CB-SEM approach (Henseler, Ringle & Sinkovics, 2009). According to Hair *et al.,* (2011), PLS-SEM is similar to using multiple regression analysis. The main object is to maximize explained variance in the dependent constructs but additionally to evaluate the data quality on the basis of measurement of model characteristics.

3.11   Partial Least Squares Structural Equation Modeling (PLS-SEM)

A SEM with latent constructs has two components. The first component is the structural model normally referred to as the inner model in the PLS-SEM context (Henseler *et al.,* 2009), which shows the relationships (paths) between the latent constructs. PLS-SEM only allows recursive relationships in the structural model (i.e., no causal loops). Therefore, the structural paths between the latent constructs can only

head in a single direction. In the structural model, there are exogenous and endogenous constructs. The term 'exogenous' is used to depict latent constructs that do not have any structural path relationships pointing at them. Thus, the term 'endogenous' depicts latent target constructs in the structural model that are explained by other constructs through structural model relationships (Hair *et al.*, 2011).

The second component of the SEM includes the measurement models, also referred to as outer models in the PLS-SEM context (Henseler *et al.*, 2009). The measurement models include the unidirectional predictive relationships between each latent construct and its associated observed indicators. Multiple relations are not allowed; therefore, indicator variables are associated with only a single latent construct. PLS-SEM can handle both formative and reflective measurement models.

Reflective indicators are seen as functions of the latent construct, and changes in the latent construct are reflected in changes in the indicator (manifest) variables. Reflective indicators are represented as single headed arrows pointing from the latent construct outward to the indicator variables; the associated coefficients for these relationships are called outer loadings in PLS-SEM. In contrast, formative indicators are assumed to cause a latent construct, and changes in the indicators determine changes in the value of the latent construct (Diamantopoulos & Winklhofer 2001; Diamantopoulos, Riefler & Roth 2008). Formative indicators are represented by single-headed arrows pointing toward the latent construct inward from the indicator variables; the associated coefficients for these formative relationships are called outer weights in PLS-SEM (Hair *et al.*, 2011).

As mentioned previously, the PLS-SEM technique is not affected by non-normality and outlier assumptions. Therefore, there was no need to test the normality distribution of the data. However, treatment of missing values is necessary before assessing the model because SmartPLS program is very sensitive to the missing values. Two steps were taken to examine the model presented in this study as follows:

a. Assessing the Measurement Model (Outer Model)

Since the measurement model of this study is reflective, the reliability and validity were assessed, which included the following criteria (Hair *et al.*, 2011; Henseler *et al.*, 2009):

- Composite reliability;
- Convergent validity;
- Cross-loadings.
- Indicator reliability;
- Discriminant validity; and

Table 3.12 shows the criteria for Assessing Reflective Measurement Models.

Table 3.12
Assessing Reflective Measurement Models

Criterion	Description
Composite reliability	Internal consistency reliability: Composite reliability should be higher than 0.70 (in exploratory research, 0.60 to 0.70 is considered acceptable).
Indicator reliability	Indicator loadings should be higher than 0.70.
Convergent validity	Convergent validity: The average variance extracted (AVE) should be higher than 0.50.
Discriminant validity	The AVE of each latent construct should be higher than the construct's highest squared correlation with any other latent construct (Fornell–Larcker criterion).
Cross-loadings	Cross-loadings offer another check for discriminant validity. If an indicator has a higher correlation with another latent variable than with its respective latent variable, the appropriateness of the model should be reconsidered.

Source: Hair et al., 2011; Henseler et al.,2009

b. Assessing the Structural Model (Inner Model)

Reliable and valid outer model estimations permit an evaluation of the inner path model estimates. The essential criteria (Hair *et al.*, 2011; Henseler *et al.*, 2009) for this assessment are as follows:

- Coefficient of determination (R^2) of the endogenous latent variables;
- Estimates for path coefficients (using bootstrapping);
- Effect size f^2 ; and
- Prediction relevance (Q^2 and q^2).

Table 3.13
Criteria of Assessing Structural Models

Criterion	Description
R^2 of endogenous latent variables	R^2 values of 0.75, 0.50, or 0.25 for endogenous latent variables in the structural model can be described as substantial, moderate, or weak, respectively.
Estimates for path coefficient	The estimated values for path relationships in the structural model should be evaluated in terms of sign, magnitude, and significance (the latter via bootstrapping). Critical t-values for a two-tailed test are 1.65 (significance level = 10 percent), 1.96 (significance level = 5 percent), and 2.58 (significance level = 1 percent).
Effect size f^2	f2 = (R^2 included – R^2 excluded) / (1- R^2 included) values of 0.02,0.15,and 0.35 can be viewed as a gauge for whether a predictor latent variable has a weak, medium, or large effect at the structural level.
Criterion (Cont.)	Description (Cont.)
Prediction relevance (Q^2 and q^2)	Predictive relevance: Use blindfolding to obtain cross-validated redundancy measures for each construct. Make sure the number of valid observations is not a multiple integer number of the omission distance d. Choose values of d between 5 and 10. Resulting Q ^{2} values of larger than zero indicate that the exogenous constructs have predictive relevance for the endogenous construct under consideration.

Source: Hair et al., 2011; Henseler et al.,2009

3.12   Chapter Summary

This chapter clarifies the methodology adopted in this research, which encompassed the research design, population and sampling frame, data collection procedures, measurement of the variables and the questionnaire design. In addition,

the results of the pilot study are presented in this chapter. The results of the analyses are presented in the following chapter.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1   Introduction

This chapter introduces the analysis of this study. It is divided into three main sections. The first section illustrates the respondents' profiles. The second section discusses the statistical results from PLS-SEM analysis, which emphasizes both the measurement model and structural model. The measurement model presents the results of the validity and reliability of the measurement used in the study while the

structural model presents the results of coefficient of determination, goodness of fit and path coefficient. The third section examines the hypotheses for both direct relationships and moderating relationships included in the study.

4.2 Response Rate

Five hundred and thirty-seven (537) questionnaires were distributed to the respondents as stated in the previous chapter, and four hundred and forty-eight (448) questionnaires were finally retained for analysis from the total number. Out of the total number of given questionnaires, fifty-four (54) questionnaires were found to be incomplete due empty sections and therefore were rejected. The final number of the approved questionnaires was three hundred and ninety four (394), yielding a response rate of 73.3 percent. Table 4.1 below shows the response rate:

Table 4.1
Response Rate

Items	Frequency	Percentage %
Number of questionnaires distributed	537	100
Number of questionnaires returned	448	83.4
Rejected questionnaires	54	10
Useable questionnaire	394	73.4

4.3 Profile of the Respondents

This section presents the demographic profile of the respondents involved in this study in terms of their age, gender, race, education level, and monthly income. Descriptive statistics show that the majority of the respondents were between the ages

of 20-29 years (48%), followed by 30-39 (21%) and 40-49 (17%). This can indicate that majority of the respondents are from generation Y, which is considered a young segment and hence should be exposed more to environmental knowledge.

The result also shows that 41.6% of the respondents were male while 58.4% were female. In terms of the race of the respondents, the analysis also revealed that Malay made up 49% of the total respondents, followed by Chinese with 40.4%, then Indians (9.6%). 1% was from other races such as the Thais, Khmers, Chams and natives originated from Sabah and Sarawak. These characteristics excluding the gender are close to the actual demographic characteristics of the actual Malaysian population, which makes this study fit to represent the Malaysian public in the northern region.

With regards to the respondents' education level, the result shows that majority of the respondents obtained an undergraduate degree with a total percentage of 39% followed by SPM holders who made up 34.5%; this indicates that more than half of the respondents have been to college, and would hence be more exposed to knowledge and understanding of environmental issues.

In order to identify the purchasing power of the respondents, they were asked to indicate their monthly income; the result shows that the majority of the respondents made more than RM2000 a month with a cumulative percentage of 57.1%, while 42.9 made less than RM2000, which was considered low and hence might affect their ability to purchase green products. Table 4.2 illustrates these findings and more details can be obtained from Appendix D-1.

Table 4.2

Profile of respondents

Demographic factor	Category	N	%
Age	Less than 20 years old	24	6
	Between 20 and 29 years old	190	48
	Between 30 and 39 years old	84	21
	Between 40 and 49 years old	66	17
	50 years old and more	30	8
Gender	Male	164	41.6
	Female	230	58.4
Race	Malay	193	49
	Chinese	159	40.4
	Indian	38	9.6
	Others	4	1
Education level	SPM	136	34.5
	Undergraduates	153	39
	Postgraduates	62	17.7
	Others	43	10.9
Monthly income	Less than RM2000	169	42.9
	Between RM2000 and RM3999	158	40.1
	Between RM4000 and RM5999	48	12.2
	Between RM6000 and RM7999	12	3
	Between RM8000 and RM9999	4	1
	RM10000 and more	3	0.8

4.4 Descriptive Statistics of the Variables

A descriptive analysis was then conducted to describe the general situation of green purchasing behavior, perceived value, environmental concern, green advertisements, eco-label, availability of green products, price of green products and green trust in the Malaysian context. As shown in Table 4.2, the mean, standard deviation, maximum and minimum of the constructs were reported. For ease of interpretation of the five-point Likert scale, the current study used three equal sized categories as follows: scores less than 2.33 [4/3 + lowest value (1)] were considered low; scores of 3.67 [highest value (5) - 4/3] were considered high, and those in between were moderate as suggested by Sekaran and Bougie (2010).

Table 4.3 shows that green advertisement had the maximum mean value of 3.465 with the standard deviation of 0.825. On the other hand, price had the minimum mean value of 3.278 with the standard deviation of 0.806. The results as shown in

Table 4.2 indicates that the consumers had medium levels of green purchasing behavior, perceived value, environmental concern, acceptance of green advertisement, understanding of the eco-labels, finding the green products, having the ability to purchase green products in term of their price and last but not least, having green trust.

Table 4.3
Descriptive Statistics of Variables

Variable	Mean	Std. Deviation
Purchasing Behavior	3.366	0.831
Perceived Value	3.376	0.707
Environmental Concern	3.353	0.729
Green Advertisement	3.465	0.825
Eco-label	3.342	0.826
Availability	3.427	0.843
Price	3.278	0.806
Green Trust	3.280	0.988

4.5   Data Screening and Cleaning

Before applying necessary data analysis techniques, data screening was necessary. This is because the data distribution has a direct impact on the choice of data analysis techniques and tests (Byrne, 2010). Although this study used PLS to evaluate the model quality (measurement and structural model) and test the hypothesis which has no concern about data distribution, data screening was still employed so that the nature of the distribution of the data could be known. In this procedure, detection and treatment of missing data, outliers, and non-response bias test were run.

4.5.1 Missing Data and Outliers

Due to the negative effect of missing data in analysis, which certainly affects the outcome, several researches have established that missing data is a critical issue of major concern to many researchers since it could negatively affect the results of any empirical research (Cavana *et al.*, 2001). Out of the 394 questionnaires, forty-five surveys (0.11 of distributed surveys) had missing data. Handling missing data is very critical due to the sensitivity of the SmartPLS (like other statistical techniques which belong to SEM) to missing data. Therefore, it was adequately checked as shown in Appendix D.

According to Hair *et al.*, (2010), researchers are advised to eliminate the respondents when there is more than 50% of missing data while not having any issues with the sample size. Instead, missing data could be handled through SPSS by substituting the missing values with either the mean or median of the nearest points, or by conducting linear interpolation. In this study, the alternative option was chosen. Thus, the forty-five respondents were found to have missing values. Only one or three items for each set of questionnaires were missed, therefore, the missing values were replaced with the median of nearby values as recommended by the above authors.

Outliers are any observations that are numerically far when comparing them to the dataset of the test (Byrne, 2010). There are many ways to detect outliers, such as classifying data points based on an observed (Mahalanobis) distance from the research expected values (Hair *et al.*, 2006). Part of the constructive arguments in favor of outlier treatments based on Mahalanobis distance is "that it serves as an effective means of detecting outliers through the settings of some predetermined

threshold that will assist in defining whether a point could be categorized as outlier or not" (Hair *et al.*, 2006).

This study used the table of chi-square statistics as the threshold value to indicate the empirical optimal values. In this research, the value was set at 24.322 as it was related to the 7 variables (at level 0.001). Hair *et al.*, (2010) mentioned that a new variable in the SPSS excel should be created under the title of "response" to indicate the beginning of all variables to their end. The study can achieve the Mahalanobis by conducting a simpler linear regression by choosing the new response number as a dependent variable, then all measurement items are selected as the independent variable excluding the demographic variables. The new output is named MAH_1, which is based on comparing it to the chi-square as stipulated in the table.

Based on MAH_1 output, eleven cases were selected as outliers due to their MAH_1 being higher than the suggested threshold value (24.322), and were subsequently deleted from the dataset as shown in Table 4.4. Sequel to the treatment of these outliers, at the end of this test, the study was filtered to have a remaining 383 samples in the data and those were the final samples that the rest of the analysis will be conducted on.

Table 4.4
Removed Outliers (Mahalanobis)

No.	Chi-squared Value	No.	Chi-squared Value
1	95.69257	7	31.45457
2	41.03180	8	30.35767
3	40.67970	9	30.28383

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4	37.60945		10	26.74884
5	36.93390		11	24.10789
6	34.82142			

4.5.2 Non-Response Bias Test

In order to assess the non-response bias, the t-test was carried out to compare the responses of the early and late respondents. The data of this research was collected during the period from 18th of November 2016 to 29th of April 2017. Several authors argued that the non-respondents are supposed to have similar characteristics like the late respondents. According to Armstrong and Overton (1977) and Kannan, Tan, Handheld and Ghosh (1999), if there are any significant variances discovered between the late and early respondents, they may point out the essential differences between respondents and non-respondents. This study carried out t-test to test the differences between the first 365 early and the late 168 questionnaires. The test took into account all the variables included in the study. However, the results in Table 4.5 show that there were no significant differences between late and early respondents across all the variables:

Table 4.5
Test of Non-respondent Bias

Variables		N	Mean	Levene's test for equality of variance		t-test for equality of means
				F	Sig.*	Sig.*(2-tailed)
Purchasing	Early	251	-.16738	.870	.351	.594

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behavior	Late	132	-.16738			.583
Environmental	Early	251	-.27851	2.079	.150	.307
concern	Late	132	-.27851			.319
Perceived	Early	251	-.22365	3.555	.060	.487
Value	Late	132	-.22365			.496
Green	Early	251	-.08605	1.276	.259	.802
Advertisement	Late	132	-.08605			.805
Echo-label	Early	251	.03658	.051	.822	.906
	Late	132	.03658			.904
Product	Early	251	.18408	2.386	.123	.650
availability	Late	132	.18408			.661
Product price	Early	251	.53256	2.946	.087	.176
	Late	132	.53256			.178
Green Trust	Early	251	.27546	.378	.539	.323
	Late	132	.27546			.323

*P<0.05

By referring to Table 4.5, it can be noticed that the assumption of the equality of variance of early and late respondents is met. Having equal variances throughout all the variables, permit then to test the equality of means of late and early respondents. The results in Table 4.5 above shows that all values in the significance column are greater than the required cutoff of (0.05), which means there are no significant differences between the two groups (early and late respondents) regarding all the variables under investigation. Thus, it can be concluded that the issue of non-response bias is not present in this study (Pallant, 2013).

4.6   Data Analysis

As part of the PLS-SEM analysis, the measurement model was assessed first, followed by the assessment of the structural model.

In PLS analysis, the first step is to assess the measurement model, or the outer model. The measurement model is concerned with determining the goodness of measures and was evaluated by the construct validity, and this assesses convergent and discriminant validity. The convergent and discriminant validity of the instruments

used in this study are assessed by the use of Fornell and Larcker's (1981) approaches which were developed for the PLS context.

Furthermore, in PLS analysis, the predictive power of a particular model is assessed by the R squared (R2) values of the endogenous constructs or latent variables, as well as ascertaining the standard path coefficient for each relationship from exogenous variables to endogenous variables. The R2 values are interpreted in the same way as those obtained from multiple regression analysis. The R2 values indicate the amount of variance in the construct that is explained by the model (Barclay, Higgins & Thompson, 1995; Chin, 1998).

Because the PLS model does not follow distributional normality assumption of the observations in its procedure for estimating parameters, the traditional parametric-based techniques for significance testing are not appropriate in PLS (Chin, 2010). Instead, two techniques are used in PLS analysis for assessing statistical significance: the bootstrap and the jack-knife techniques. The jack-knife technique is a more cursory algorithm and the hypotheses are tested by assessing statistical significance of the path coefficients. The jack-knife technique is used to save resources and reduce execution time for large data sets (Chin, 2010). Bootstrapping, on the other hand, represents a more exact calculation of measures (Mooney, 1996). This study uses the bootstrapping technique for testing the significance of all the path coefficients because in PLS analysis, bootstrapping is the only mechanism for examining the significance of path coefficients (Chin, 2010). In PLS analysis, bootstrapping is used to evaluate the significance of a model's path coefficients and estimate the standard error (Chin, 1998). Bootstrapping is a non-parametric re-sampling procedure that involves repeating random sampling with replacement from

the original sample (Efron & Tibshirani, 1993). It is a superior re-sampling method which attempts to approximate the sampling distribution of an estimator by re-sampling with replacement from the original sample (Good, 2000). Despite the role of bootstrapping in PLS, the procedure is still not a standardized one as the user decides the number of bootstrap retrials to undertake based on the peculiarity of the situation (Rasmussen, 1988). It was argued that insufficient number of retrials may create incorrect estimates of standard error, t-values, confidence intervals or conclusions in the test of hypotheses (Bontis, Booker & Serenko, 2007). Important guidelines for the selection of the number of re-sampling are still being explored (Andrews & Buchinsky, 2002). However, in the present study, a total of 500 retrials were chosen for determining the significance of model's path coefficients and standard error as recommended by Chin (2010).

4.6.1 Construct Validity

Construct validity testifies to how well the results obtained from the use of the measure fit the theories around which the test is designed (Sekaran & Bougie, 2010). According to Ramayah, Lee and Chyaw (2011), the instrument should tap the concept as theorized. This can be achieved by assessing convergent and discriminant validity, which are discussed in the next subsections.

4.6.2 Convergent validity

Convergent validity is described as the level to which many items measuring the same concept are in agreement (Ramayah *et al.*, 2011). In light of classical test theory, convergent validity has its basis on the correlation between responses taken through various methods of measuring a particular construct (Peter, 1981). Hair *et al.*

(2010) suggested that researchers utilize the factor loadings, composite reliability (CR) and average variance extracted (AVE) to assess convergence validity, which are discussed in the following subsections.

4.6.2.1 Factor Loading

According to Hair *et al.*, (2011), indicator loadings (factor loadings) should be higher than 0.70. Similarly, Fernandes (2012) argued that:

"Researchers often apply the informal rule that the correlation coefficient (or loadings) must be greater than 0.70, which implies that the variance shared between the construct and its measure is greater than the error of the variance. Therefore, more than 50% of the variance in the observed variable is due to its construct. If the correlation is less than 0.70, results must be interpreted with care, as this low correlation may be due to a poorly formulated item (low reliability), an inappropriate item (low content validity) or an inappropriate transfer of an item from one context to another."

Table 4.6 illustrates the factor loading of each item under every variable with a loading value of 0.70 as an accepted cut value while below this value is rejected which are the items highlighted in the same table:

Table 4.6
Results of Measurement Model –Factor Loading

Construct	Items	Factor loading
pb1	I buy green products.	0.755
pb2	I make a special effort to buy paper and plastic products that are made from recycled materials.	0.840
pb3	When I have a choice between two equal products, I buy the one less harmful to other people and the environment.	0.767
pb4	I make a special effort to buy household chemicals such as detergents and cleansing solutions that are environmentally friendly	0.729
pb5	I avoid buying products that have potentially harmful environmental effects	0.810

pv1	I get very good value from Green products' function	0.755
pv2	I am satisfied with Green products' performance	0.746
pv3	I purchase a green product because it has more environmental benefits than other products	0.749
pv4	**I purchase a green product because it has more environmental concern than other products**	**0.392**
pv5	I purchase a green product because it is environmentally friendly	0.718
ec1	I am highly concerned about the environment.	0.871
ec2	I think environmental issues are consumers' responsibility.	0.842
ec3	**I wish to see less packaging waste generated by processed products.**	**0.502**
ec4	I am worried about how all of my activities affect the environment.	0.809
ec5	I believe that environmental issues are an emergency issue.	0.742
ec6	**I often think about how the environmental quality can be improved.**	**0.522**
ga1	I have seen advertisement recommending the use of green products.	0.692
ga2	**I believe advertising contributes to the knowledge about benefits of green products.**	**0.400**
ga3	I trust green advertisements.	0.724
ga4	I think green advertisements are attractive.	0.841
ga5	I make proper purchasing decisions based on green advertisements guidance.	0.772
ga6	I enjoy watching broadcasts of green advertisements.	0.739
el1	**I consider what is printed on eco-labels to be accurate.**	**0.453**
el2	I easily understand The information on eco-labels.	0.825
el3	I'm satisfied with the information available on the eco-label of the green products I purchased.	0.743
el4	I understand the information on green products.	0.833
el5	I believe in the information on green products.	0.750
el6	I appreciate the package/design of green products.	0.718
pa1	I know where the green product displays are in my supermarket.	0.800
pa2	I easily find green products in my supermarket.	0.854
pa3	I am willing to buy green products if they are accessible/available in my supermarket.	0.832
pa4	I always find green products that I want to buy.	0.795
pa5	I find green products that I need easily.	0.751
pa6	**Green products are easy to reach.**	**0.467**
pp1	I would choose environmentally friendly goods and services, campaigns or companies if the price were the same.	0.806
pp2	I'm willing to pay more for environmentally friendly products.	0.754
pp3	If the price of green products is less expensive I'm willing to change my lifestyle by purchasing green products.	0.702
pp4	**To me, it is acceptable to pay more for groceries that are produced, processed and packaged in an environmentally friendly way.**	**0.386**
pp5	I would accept paying more for an environmental cleanup program.	0.709
pp6	**I would be willing to spend an extra in order to buy less environmentally harmful products.**	**0.313**
pp7	I feel proud to have environmental friendly products in my house though they cost more.	0.747
t1	I believe that green product's environmental image is generally reliable.	0.804
t2	I think that green product's environmental functionality is generally dependable.	0.754
t3	I believe that green product's environmental claims are trustworthy.	0.856
t4	The green product's environmental performance meets my expectations.	0.743
t5	The green products keep promises for environmental improvement.	0.792

From Table 4.6, it can be observed that a total of eight items had a loading value of less than 0.7 as follows: pv4=0.392; ec3=0.502; ec6=0.522; ga2=0.400; el1=0.453; pa6=0.467; pp4=0.386 and pp6=0.313. This indicates that the variance

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shared between the construct and its measure is less than the error of the variance, hence these items were removed as they did not meet the desired cut value of 0.7.

4.6.2.2 Composite Reliability (CR)

A review of the previous relevant statistical literature revealed the importance of Cronbach's alpha in measuring the internal consistency among items; this indicator has been reported to have several limitations. The main limitation is that it assumes the equal reliabilities of all items. However, this assumption is rarely true (Bollen, 1989). Therefore, composite reliability is preferred more (Werts, Linn & Joreskog, 1974).

Composite reliability was suggested in the SEM literature to overcome some of the limitations of using Cronbach's alpha (Anderson & Gerbing, 1988). This indicator uses the item loadings obtained within the nomological network; thus, it provides a better estimate of variance shared by the respective indicators (Hair, Anderson, Tatham & Black, 2006). Therefore, it refers to the extent to which the items consistently represent the same latent construct (Hair *et al.*, 2010). Composite reliability as a measurement of internal consistency is calculated as follows:

$$Composite\ reliability(\rho) = \frac{(\sum_i \lambda ij)^2}{(\sum_i \lambda ij)^2 + \sum_i var(\varepsilon ij)}$$

λi = loadings of indicator i of a latent variable

εi = measurement error of indicator i

$\Box j$ = flow index across all reflective measurement model

As recommended by many researchers (e.g. Hair *et al.,* 2011; Henseler *et al.,* 2009), the acceptable threshold for composite reliability is 0.70. Moreover, it was also suggested that composite reliability between 0.60 and 0.70 may be accepted provided that all other conditions of construct validity are satisfied. Table 4.7 shows the composite reliability of the constructs in this study which exceed the cut-off value of 0.70.

Table 4.7

Results of Measurements Model-Composite Reliability (CR)

Construct	Composite Reliability (CR)
Purchasing Behavior	0.886
Perceived Value	0.830
Environmental Concern	0.889
Green Advertisement	0.868
Eco-label	0.882
Green products availability	0.903
Price of green products	0.861
Green Trust	0.893

4.6.2.3 Average Variance Extracted (AVE)

For assessing the convergent validity of the constructs, Fornell and Larcker's (1981) AVE criterion was employed. The AVE refers to the average percentage of the variance extracted commonly among the observed variables of a construct.

Generally, it is calculated, as suggested by Hair *et al.,* (2010), according to the following formula:

$$AVE = \frac{\sum_{i=1}^{n} \lambda_i^2}{n}$$

Where λi is the standardized factor loading of the ith item and n is the number of items measuring the respective construct. According to Henseler *et al.* (2009) and

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Hair *et al.* (2011), an AVE value greater than 0.50 indicates that a latent variable is able to explain more than half of the variance of its indicators on average. However, if the AVE is less than 0.5, this indicates, on average, that the construct explains less variance in the items that remain (in error) unexplained. Table 4.8 illustrates the results that shows the entire construct has achieved more than 0.50 values for AVE.

Table 4.8

Average Variance Extracted (AVE)

Variable	AVE
Purchasing Behavior	0.611
Perceived Value	0.551
Environmental Concern	0.669
Green Advertisement	0.571
Eco-label	0.602
Green products availability	0.652
Price of green products	0.555
Green Trust	0.625

4.7   Discriminant Validity

Discriminant validity is one of the indicators used to evaluate construct validity. However, it refers to the extent to which a group of items estimate only one construct and how this construct is distinctly estimated (Byrne, 2010; Hair *et al.*, 2010). In other words, high discriminant validity indicates that a construct is unique in measuring a phenomenon in such a way that cannot be captured by other constructs (Hair *et al.*, 2010). Moreover, the discriminant validity, in addition to ensuring distinctiveness, indicates that there are no cross-loading issues related to the measured items. Accordingly, the criterion to evaluate the discriminant validity is the cross-loading (or correlation) (Chin, 2010; Hulland, 1999), where the correlation of each item to its intended construct (i.e., loading) should exceed the correlation with other constructs (i.e., cross-loading) (Chin, 2010; Chin, 1998b). The results are shown in Table 4.9 as follows:

Table 4.9

Cross Loading

	Purchasing behavior	Perceived value	Environmental concern	Green advertisement	Eco-label	Product availability	Price of products	Green Trust
pb1	0.755	0.454	0.194	0.448	0.403	0.304	0.440	0.325
pb2	0.840	0.487	0.361	0.568	0.462	0.349	0.477	0.477
pb3	0.767	0.546	0.408	0.504	0.493	0.294	0.500	0.548
pb4	0.729	0.645	0.585	0.392	0.401	0.241	0.387	0.425
pb5	0.810	0.487	0.390	0.486	0.606	0.271	0.608	0.387
pv1	0.742	0.755	0.322	0.504	0.458	0.259	0.474	0.300
pv2	0.323	0.746	0.706	0.343	0.269	0.255	0.239	0.417
pv3	0.316	0.749	0.741	0.352	0.260	0.226	0.258	0.522
pv5	0.249	0.718	0.696	0.250	0.260	0.174	0.249	0.451
ec1	0.517	0.577	0.871	0.475	0.560	0.325	0.548	0.620
ec2	0.426	0.524	0.842	0.406	0.472	0.311	0.451	0.468
ec4	0.347	0.727	0.809	0.368	0.262	0.260	0.257	0.510
ec5	0.276	0.688	0.742	0.263	0.255	0.194	0.245	0.437
ga1	0.385	0.274	0.309	0.692	0.488	0.373	0.512	0.438
ga3	0.467	0.394	0.316	0.724	0.406	0.400	0.417	0.503
ga4	0.548	0.463	0.395	0.841	0.579	0.417	0.597	0.638
ga5	0.502	0.452	0.420	0.772	0.524	0.348	0.523	0.580
ga6	0.392	0.431	0.353	0.739	0.417	0.387	0.432	0.465
el2	0.451	0.347	0.385	0.448	0.825	0.236	0.781	0.330
el3	0.472	0.442	0.500	0.531	0.743	0.262	0.676	0.440
el4	0.473	0.329	0.354	0.423	0.833	0.222	0.758	0.315
el5	0.457	0.263	0.283	0.560	0.750	0.301	0.703	0.446
el6	0.499	0.429	0.416	0.524	0.751	0.445	0.718	0.468
pa1	0.369	0.243	0.222	0.483	0.323	0.800	0.351	0.344
pa2	0.256	0.255	0.260	0.370	0.300	0.854	0.313	0.310
pa3	0.318	0.327	0.329	0.428	0.378	0.832	0.388	0.398
pa4	0.285	0.247	0.288	0.407	0.268	0.795	0.283	0.295
pa5	0.245	0.205	0.295	0.324	0.250	0.751	0.257	0.272
pp1	0.519	0.466	0.526	0.578	0.726	0.317	0.806	0.435
pp2	0.475	0.282	0.297	0.623	0.704	0.337	0.754	0.193
pp3	0.450	0.264	0.239	0.356	0.697	0.169	0.702	0.104
pp5	0.318	0.246	0.280	0.365	0.636	0.223	0.709	0.186
pp7	0.502	0.445	0.432	0.494	0.705	0.142	0.747	0.390
t1	0.450	0.569	0.558	0.645	0.413	0.440	0.423	0.803
t2	0.442	0.542	0.547	0.587	0.391	0.410	0.404	0.754
t3	0.453	0.472	0.462	0.556	0.454	0.275	0.458	0.856
t4	0.345	0.372	0.378	0.454	0.359	0.193	0.348	0.743
t5	0.488	0.513	0.527	0.525	0.423	0.269	0.442	0.792

The second criteria to evaluate discriminant validity was tested through variable correlation as suggested by Fornell and Larcker's (1981) AVE test. Substantiation of discriminant validity occurs when square root of AVE estimation is over the correlations between the factors making each pair (Fornell & Larcker, 1981) or the AVE of each latent construct higher than the construct's highest squared correlation with any other latent construct (Chin, 2010; Hair *et al.,* 2011).

Therefore, discriminant validity was employed to confirm that a construct is more strongly related to its own measures than with any other construct by examining

the overlap in variance. Basically, if a specific construct is more correlated with another construct than with its own measures, there is the possibility that the two constructs share the same types of measures and are not conceptually distinct. The results are shown in Table 4.10

Table 4.10
Variable Correlation-Root Square of AVE

	Purchasing behavior	Perceived value	Environme ntal concern	Green advertis ement	Eco-label	Product availability	Price of products	Green Trust
Purchasing behavior	**0.781**							
Perceived value	0.671	**0.742**						
Environmental concern	0.498	0.744	**0.817**					
Green advertisement	0.615	0.540	0.477	**0.755**				
Eco-label	0.609	0.470	0.503	0.643	**0.775**			
Product availability	0.373	0.319	0.343	0.508	0.382	**0.807**		
Price of products	0.620	0.468	0.488	0.660	0.671	0.401	**0.744**	
Green Trust	0.556	0.630	0.631	0.703	0.519	0.406	0.529	**0.790**

As apparent from Table 4.10 for the study construct, the square root of AVE of each latent construct exceeds the constructs' correlations.

4.8   Measurement Model

The measurement model of the current study was subjected to several evaluating stages such as factor loading, Cronbach's alpha, convergent validity, and discriminant validity. The main purpose forgoing all these processes is to determine the reliability and validity of the measurement before testing the hypotheses. After the analysis, a reliable and valid model was derived. Figure 4.1 illustrates the final model:
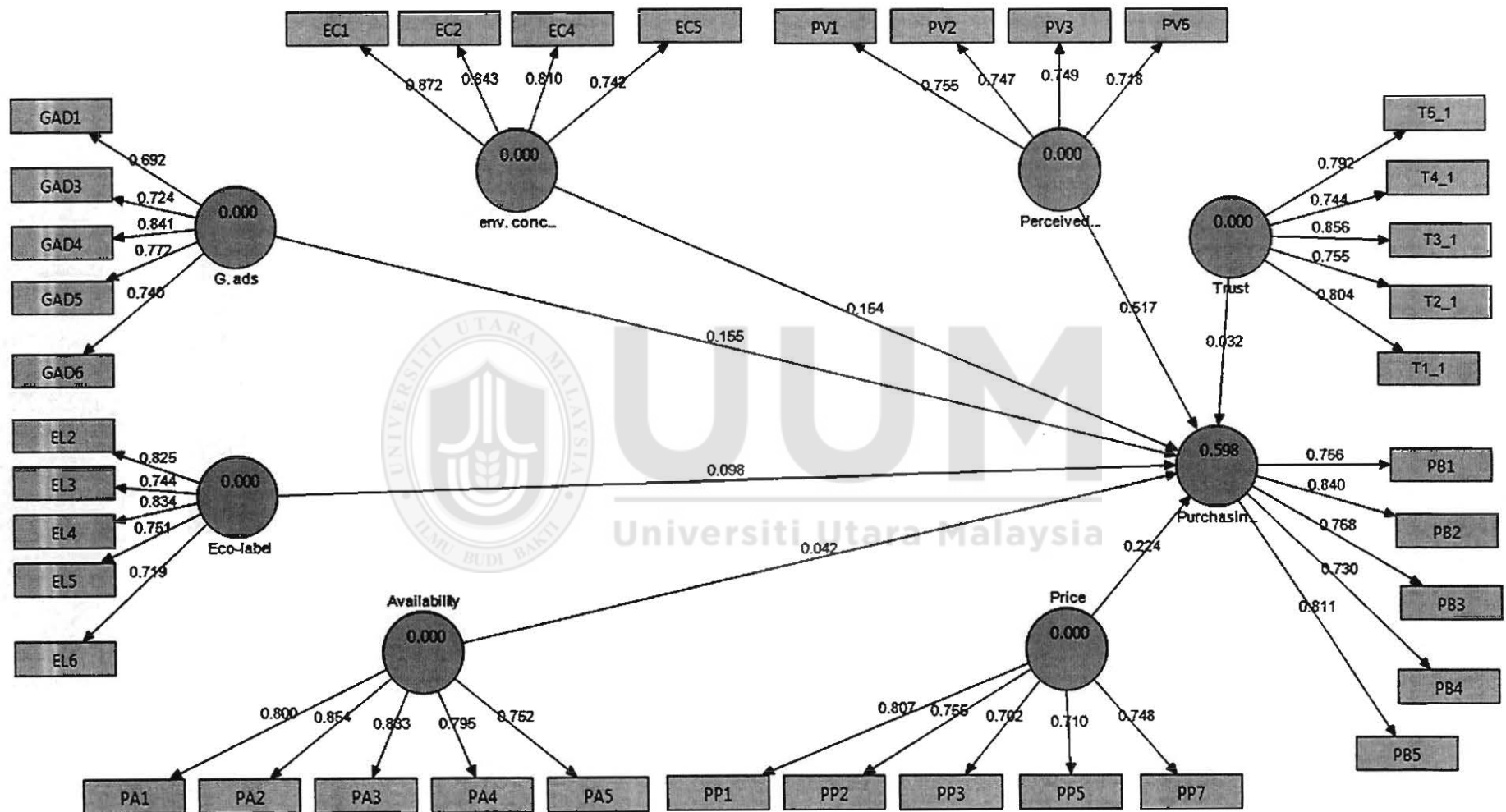
Figure 4.1
Final Reliable and Valid Research Model

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4.9   Structural Model (Inner Model)

Having established the validity and the reliability of the measurement model, sufficient prediction quality and large GoF, it is possible to go to the next step which was testing the hypothesized relationship for both the direct model and the model after including the moderator.

4.9.1   Direct Model

The direct relations are tested by running the PLS-SEM algorithm and bootstrapping, hence the structural model was examined (Chin, 2010). A major emphasis in PLS-SEM analysis is on the variance explained as well as establishing the significance of all path estimates. Specifically, the predictive power of the structural model is assessed by the R^2 values of the endogenous constructs (Chin, 2010; Henseler *et al.*, 2009), and then the level and significance of the path coefficients (Hair *et al.*, 2011). In other words, the quality of the structural model can be assessed by R^2 which indicates the variance in the endogenous variable that is explained by the exogenous variables.

4.9.1.1 Coefficient of Determination (R^2)

In PLS-SEM, R^2 results represent the amount of variance in the construct in question that is explained by the model. In other words, the aim of the prediction-oriented PLS-SEM approach is to explain the endogenous latent variables' variance, where the main target constructs' level of R^2 should be high (Chin, 2010; Hair *et al.*, 2010). Furthermore, Chin (1998) suggested that values of R^2 more than 0.67 are considered high, while values ranging from 0.33 to 0.67 are considered moderate,

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whereas values between 0.19 to 0.33 are considered weak and any R^2 value less than 0.19 is unacceptable. Thereby, the quality of the structural model depends on the values of R^2, which demonstrate the ability of the exogenous variable(s) in explaining the endogenous variables

Therefore, for a given PLS-SEM model, looking at the R^2 for the endogenous (latent) variable in the structural model provided by PLS-SEM was the first step. Table 4.11 below depicts the R^2 of the endogenous variable in this study.

Table 4.11
R-square of endogenous latent variable

Construct-Endogenous	R^2
Purchasing Behavior	0.630

From Table 4.11 above, it is obvious that R^2 for the endogenous latent variable included in the present study fulfilled Chin's criteria. According to the result of the endogenous variable of this study, "purchasing behavior of green products", it is clear that it can explain 63% of the variance in the exogenous variables which are: perceived value, environmental concern, green advertisement, eco-label, availability of green products, price of green products and the moderating variable green trust.

4.9.1.2 The Effect Size (f^2)

It is also good to determine the effect sizes of specific latent variables' impact upon the dependent variables with the help of f^2 analysis which is complementary to R^2 (Chin, 2010). The f^2 effect size was calculated as it is not automatically provided

in PLS. The researcher manually calculated it with the help of the formula; $f^2 =$ (R²
included - R² excluded) / (1 - R² included) represented by:

$$\text{Effect size: } f^2 = \frac{R^2_{incl} - R^2_{excl}}{1 - R^2_{incl}}$$

The $f2$ values of 0.02, 0.15 and 0.35, respectively, were used to interpret
small, medium and large effect sizes of the predictive variables, as recommended by
Cohen (1988). Based on the proposed model of the study, the effect sizes of specific
latent variables and the moderator's role can be evaluated by the same formula
proposed by Cohen (1988). Various researchers have made use of such assessment in
the PLS analysis (Landau & Bock, 2013; Lew & Sinkovics, 2013).

As for the moderator model, the moderating impact can be assessed by
comparing the proportion of variance explained (expressed by R² of the main effect
model [the model without moderating effect]) along with the R² of the full model (the
model with moderating effect). This premise was made on the basis of the effect size.
According to Cohen (1988, p. 412, as cited in Henseler & Fassott, 2010, p.732), the
effect size $f2$ is calculated using the formula provided below. Hair *et al.* (2013) and
Henseler and Fassott (2010) recommended that the main effects be changed into
simple/single effects when analyzing the moderator model.

$$f^2 = \frac{R^2 \; model \; with \; moderator - R^2 \; model \; without \; moderator}{1 - R^2 \; model \; with \; moderator}$$

Table 4.12 shows large effect size of perceived value ($f2$=0.3730), it also
shows that green advertisement has a small effect size ($f2$=0.0432) on purchasing
behavior, meanwhile environmental concern, eco-label, green product availability and

price of green products had a small effect size ($f2$=0.0027, 0.0027, 0.0027, 0.0108, respectively).

Table 4.12
Effect size of latent variables

Constructs	R^2 include	R^2 exclude	Effect size	Result
Perceived Value	0.630	0.492	0.3730	Large effect
Environmental Concern	0.630	0.629	0.0027	Small effect
Green Advertisement	0.630	0.614	0.0432	Small effect
Eco-label	0.630	0.629	0.0027	Small effect
Green Product Availability	0.630	0.629	0.0027	Small effect
Price of Green Products	0.630	0.626	0.0108	Small effect

4.9.3 Predictive Relevance of the Model (Q^2)

The predictive relevance Q^2 is another criterion to assess the quality of the structural model, or in other words, the model's capability to predict (Chin, 2010). The basic proposition of predictive relevance is that the model must be able to adequately predict each endogenous latent construct's indicators (Hair *et al.*, 2011). The Q^2 value is obtained by using the Blindfolding procedure to generate the cross-validated communality and cross-validated redundancy. Blindfolding procedures are designed to remove amounts of the data and consider them as missing values in order to estimate the model parameters. In other words, a sample reuses a technique that omits every d^{th} data point part and uses the resulting estimates to predict the omitted part. It should be noted that the omission distance d must be chosen; experience shows that d value from 5 to 10 is advantageous (Chin, 2010).

The blindfolding procedure is only applied to endogenous latent variables that have a reflective measurement model specification (Hair *et al.*, 2011; Henseler *et al.*, 2009). As was mentioned earlier, Q^2 comes in two forms: the cross-validated

redundancy and communality. Hair *et al.* (2011) recommended using the cross-validated redundancy, which unlike the cross validated communality, uses the PLS-SEM estimates of both the structural model and the measurement models for data prediction and, therefore, perfectly fits the PLS-SEM approach. Fornell and Cha (1994) suggested that if an endogenous construct's cross-validated redundancy measure value (i.e., Q) for a certain endogenous latent variable is larger than zero (Q > 0), its explanatory latent constructs show evidence of predictive relevance. Table 4.13 below shows the predictive relevance of the model in this study:

Table 4.13

Predictive relevance of the endogenous latent variables Q^2

Construct	Validity redundancy	Results
Purchasing Behavior	0.382	$Q^2 > 0$ explanatory variable provides predictive relevance

Based on the SmartPLS 2.0 results, the obtained for cross validated redundancy of the endogenous latent variables were found to be 0.382 > 0. This result supports the claim that the model has a sufficient prediction quality.

4.9.4 Goodness of Fit of the Model (GoF)

Unlike the CB-SEM approach, PLS-SEM has only one measure of goodness of fit, which was defined by Tenenhaus, Vinzi, Chatelin and Lauro (2005) as the global fit measure (GoF). GoF (0 < GoF < 1), which is a geometric mean of the average variance, extracted (Average Communality $\overline{AVE}$) and the average R-square for the endogenous variables. The purpose of measure is to account for the model performance at both the measurement and structural models with focus on overall

prediction performance of the model (Chin, 2010; Henseler & Sarstedt, 2012). GoF is calculated by the following formula:

$$Gof = \sqrt{(\overline{R^2} \times \overline{AVE})}$$

To determine the global validation of PLS models, Wetzels, Odekerken-Schröder and Oppen (2009) derived the following GoF criteria for small, medium, and large GoF as in Table 4.14 below:

Table 4.14
The baseline of GoF criteria

GoF small	0.10
GoF medium	0.25
GoF large	0.36

The above table demonstrates the baseline values for validating the PLS model globally. Accordingly, the GoF value of this study was 0.603 which was calculated as follows:

$$Gof = \sqrt{(\overline{0.630} \times \overline{0.604})} = 0.603$$

By comparing the GoF value of this study with baseline values of GoF assuggested by Wetzels *et al.* (2009), it can be concluded that the GoF model is large and of sufficient global PLS model validity.

4.9.5 Hypotheses Testing (Path Coefficient)

The hypothesized relationships were tested by running PLS algorithm and bootstrapping algorithm in SmartPLS 2.0 3M. Although path coefficients are very

important in PLS analysis, Hair *et al.* (2011) confirmed that when paths are non-significant or when they tend to reveal some signs that are against the hypothesized direction, the prior hypothesis should be rejected. On the other hand, significant paths showing the hypothesized direction support the proposed causal relationship empirically. Further, they stated that each path coefficient's significance, just as with the indicators' weights and loadings, can be assessed by means of a bootstrapping procedure.

Using the bootstrapping method in the assessment of path coefficients entails a least bootstrap sample of 5000 and the number of cases should be equal to the number of observations in the original sample (Hair *et al.*, 2011). Moreover, the critical t-values for a two-tailed test are 1.65 (with a significance level of 10%), 1.96 (with a significance level of 5%), and 2.58 (with a significance level of 1%). Along this vein, the researcher set 5000 re-sampling with a replacement number from the bootstrap cases equal to the original number of sample (383) in order to produce standard errors and obtain t-statistics.

Figure 4.2 followed by Table 4.15 contain the path coefficient and the bootstrapping results of the direct relations, where the hypothesized relationships below were tested:

H1: The result revealed that the proposed relationship between perceived value and purchasing behavior of green products was significant ($\beta = 0.701$, t = 8.957) and hence the hypothesis was supported.

H2: Environmental concern did not show any association with green purchasing behavior (β = 0.078, t = 1.059) and therefore this hypothesis was found to be not significant.

H3: Green advertisement and green purchasing behavior was highly significant (β = 0.196, t = 3.616) and hence the hypothesis was supported.

H4: No support was found for H4 because eco-label had no significant relationship with green purchasing behavior (β = 0.066, t = 0.601), therefore the hypothesis was not supported.

H5: The result offered no support for H5 because green product availability was not significant in determining green purchasing behavior (β = 0.039, t = 1.107).

H6: The result showed a strong association between price of green products and purchasing behavior of green products (β = 0.192, t = 1.695) and hence the hypothesis was   supported.
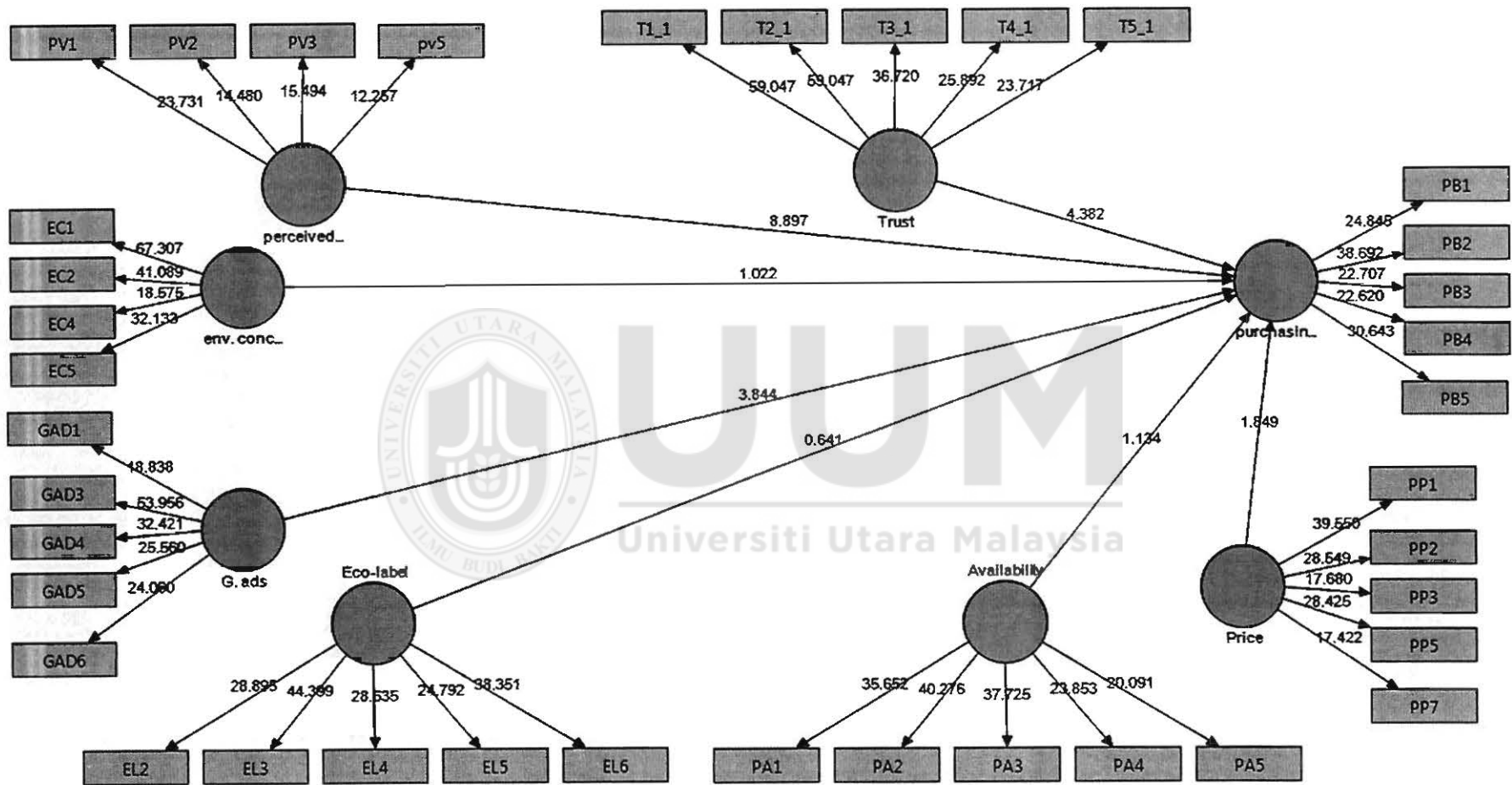
Figure 4.2
PLS bootstrapping (t-value) for the study model of direct relations

Table 4.15
Results of hypothesis testing for the direct relations

Hypothesis	Relationship	Path coefficient	Standard error	t-value	Result
H1	Perceived value – green purchasing behavior	0.701	0.078	8.975	Supported
H2	Environmental concern – green purchasing behavior	0.078	0.073	1.059	Not supported
H3	Green advertisement – green purchasing behavior	0.196	0.054	3.616	Supported
H4	Eco-label – green purchasing behavior	0.066	0.109	0.601	Not supported
H5	Availability of green products – green purchasing behavior	0.039	0.035	1.107	Not supported
H6	Price of green products – green purchasing behavior	0.192	0.113	1.695	Supported

4.9.2 Moderating Model

For the purpose of testing the moderating effect of green trust, four of the six variables were tested, namely perceived value, environmental concern, green advertising and eco-label since those variables could be affected by an assistant variable unlike variables related to perceived behavioral control which were price and availability in this study.

By running PLS algorithm and bootstrapping algorithm in SmartPLS 2.0 3M, bootstrapping method was applied the same way with the direct relation in the previous section and the results of the hypothesis revealed the following:

H7: Result provided support for H7 (β = 2.314, t = 6.467). This indicates that green trust had a moderating effect on the relationship between perceived value and green purchasing behavior and enhances the relationship between them.

H8: Green trust had a moderating effect between environmental concern and purchasing behavior of green products (β =1.603, t = 4.430). Hence this hypothesis was supported.

H9: The results showed that green trust moderates the relationship between green advertisement and green purchasing behavior (β =0.499, t = 1.697) and this shows that green trust enhances the relationship between the two variables.

H10: The results provided no support for the last hypothesis (β = 0.436, t = 1.548). This implies that green trust had no moderating effect on the relationship between eco-label and purchasing behavior of green product.

Figure 4.3 and Table 4.16 contain the path coefficient and the bootstrapping results of the moderating relations as follows:
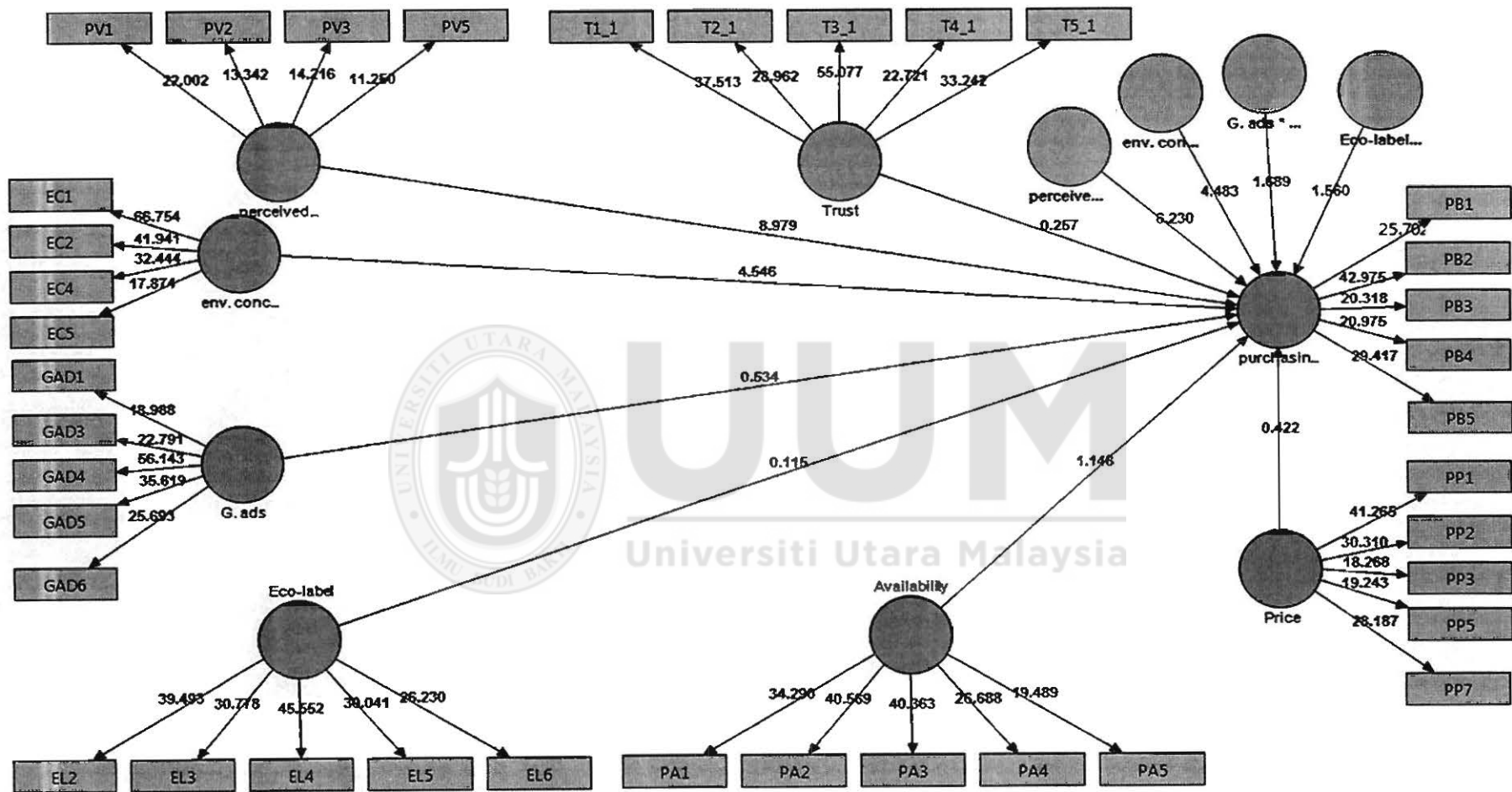
Figure 4.3
PLS bootstrapping (t-value) for the study model of moderating relations

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Table 4.16
Results of hypothesis testing of the moderating relations

Hypothesis	Relationship	Path coefficient	Standard error	t-value	Result
H7	Perceived value*green trust -- green purchasing behavior	2.315	0.358	6.468	Supported
H8	Environmental concern*green trust -- green purchasing behavior	1.604	0.362	4.431	Supported
H9	Green advertisement*green trust -- green purchasing behavior	0.500	0.294	1.697	Supported
H10	Eco-label*green trust -- green purchasing behavior	0.437	0.282	1.548	Not supported

4.10   Analysis of the Effect of Green Trust as a Moderator

In Table 4.15, the result of hypothesis testing showed that the moderating effect of green trust on perceived value and purchasing behavior was supported. However, to get more details of this relationship, we created a line graph that can illustrate this result as shown in figures 4.4,4.5 and 4.6.

In Figure 4.4, there were two different curves in the relationship between perceived value and purchasing behavior, which represented low and high perceived value from green products. The curve of high green trust was positive for the relationship between perceived value and purchasing behavior; the curve of green trust was found to be faster (larger area or made a more right angle) compared to the curve of low green trust. This means that green trust strengthened the positive relationship between purchasing behavior and perceived value. In other words, when

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consumers have a high green trust, they tended to perceive a higher value from green products when purchasing compared to when it is lower.
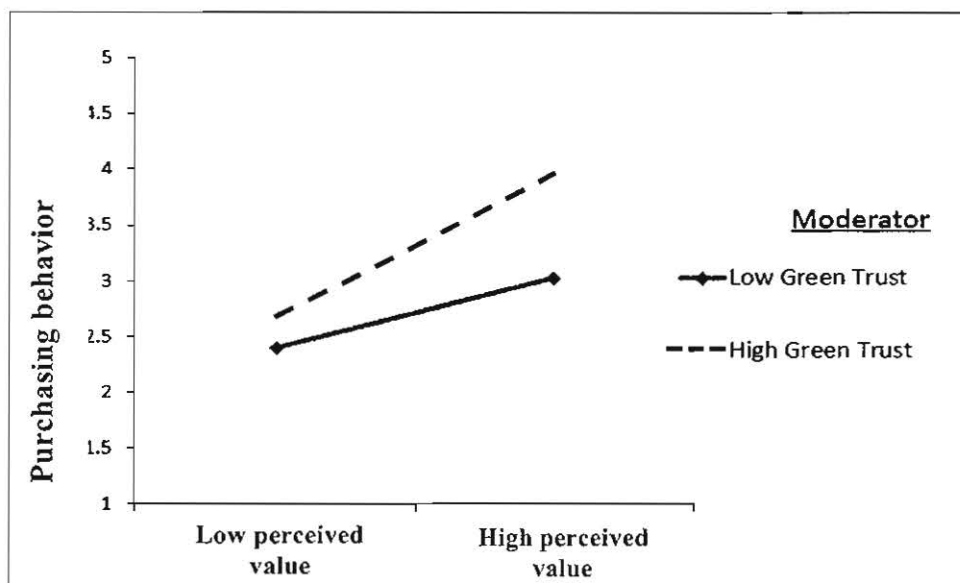
Figure 4.4
The Moderating Effect of Green trust on Perceived Value

In Figure 4.5, there were also two different curves in the relationship between environmental concern and purchasing behavior, which represented low and high purchasing behavior of green products. As seen from the hypothesis results, environmental concern had no influence on green purchasing behavior or as represented in this figure, it moves more to the negative effect. However, with the interaction of the moderating variable green trust, this relationship improves, and the curve of green trust moves more to the positive side. This means that green trust dampened the negative relationship between purchasing behavior and environmental concern. In other words, when consumers have a high green trust, they develop a less negative environmental concern.
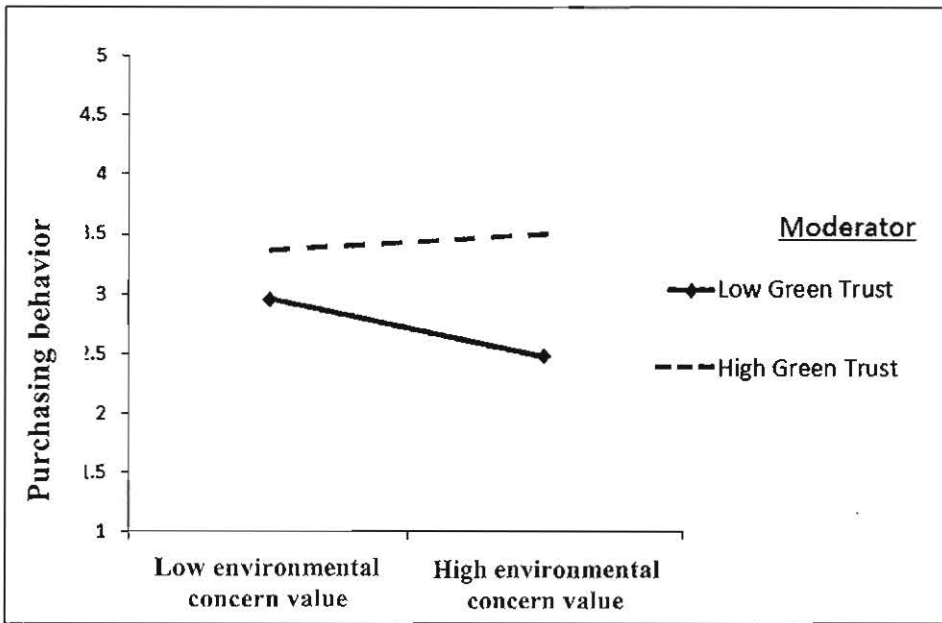
Figure 4.5

The Moderating Effect of Green trust on Environmental Concern

Figure 4.6 shows the relationship between green advertisement and purchasing behavior. The hypothesis results supported the claim that green advertisement has an influence on green purchasing behavior, and with the interaction of the moderating variable green trust, this relationship goes higher. The curves of high green trust and low green trust were always positive for the relationship between green advertisement and purchasing behavior of green products, however, similar to the first independent variable, the curve of high trust is slightly higher (covers a larger area or has an angel more to the right) than the lower trust curve. This means that green trust strengthens the positive relationship between purchasing behavior and green advertisement. In other words, when consumers have higher green trust, they are more likely to accept green advertisements and receive the messages they deliver about green purchasing positively.
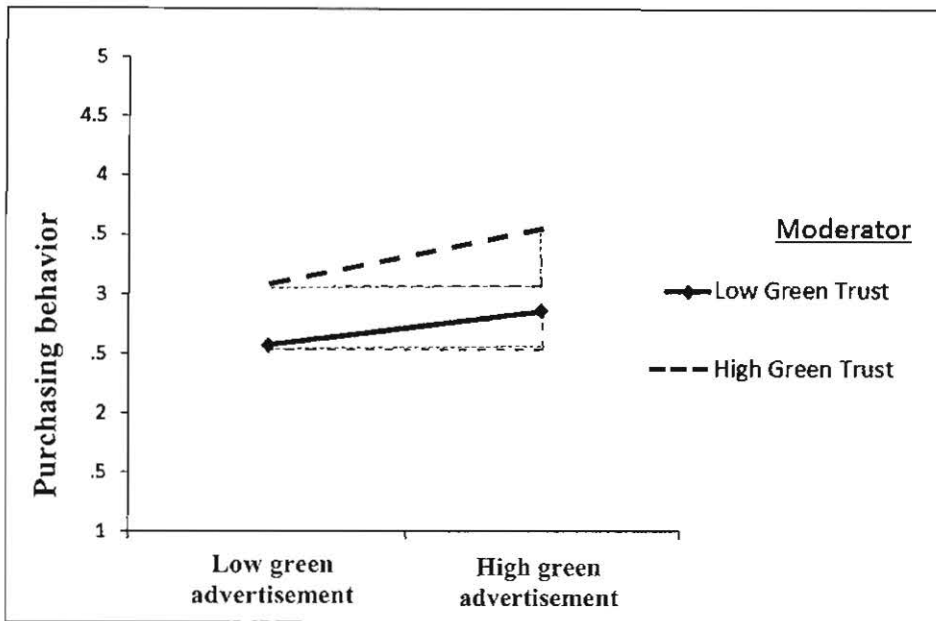
Figure 4.6

The Moderating Effect of Green trust on Green Advertisement

4.11   Summary of Findings

This chapter has reported the findings of this study. It has also presented findings on the response rate and characteristics, techniques employed in measurement refinements, and analyses run to examine the instrument validity and reliability tests, among others. Descriptive statistics showed that in general, respondents indicated medium levels of green purchasing behavior, perceived value, environmental concern, accepting green advertisement, understanding of eco-labels, finding the green products, having the ability to purchase green products in terms of their price, and green trust. More importantly, this chapter has offered results of PLS analysis that was obtained from the evaluation of the measurement model, structural model and hypotheses testing.

As indicated in the various analyses above, six of ten hypotheses were accepted as being significant while four hypotheses were rejected due to insignificant findings.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1   Introduction

This chapter is dedicated to summarizing the study, discussing its findings and highlighting its contributions to the theoretical and methodological literature. It also offers recommendations for managers, presents limitations of the study and suggests future research avenues. Finally, this chapter summarizes and concludes the study.

5.2   Recapitulations of Research Findings

Essentially, this study was greatly motivated by the practical gaps in the context of the relationship between consumers' environmental concern and their green purchasing behavior in the Malaysian market, which converged with the theoretical gaps in the relevant literature.

Based on previous studies in consumers behavior (e.g., Alam, & Sayuti, 2011; Gabisch, 2011; Moshrefjavadi *et al.*, 2012; Singaralingam, 2015), a theoretical model of green purchasing behavior was developed to show proposed testable relationships among the study constructs in the context of green behavior in the Malaysian market. The model was to assist in answering the following questions: (1) Do perceived value of green products and environmental concern influence the purchasing behavior of green products? (2) Do green advertisement and eco-label influence the purchasing behavior of green products? (3) Do green products' availability and price influence

the purchasing behavior of green products? (4) Does green trust moderate the relationship between perceived value of green products, environmental concern, green advertisement, eco-label, and the purchasing behavior of green products?

Consistent with the research questions, a number of research objectives were sought to be accomplished. Primarily, the objectives were to: (1) examine the influence of perceived value of green products and environmental concern on purchasing behavior of green products; (2) to investigate the influence of green advertisement and eco-label on purchasing behavior of green products; (3) to investigate the influence of green products availability and price on purchasing behavior of green products; and (4) to examine the moderating role of green trust on the relationship between perceived value of green products, environmental concern, green advertisement, eco-label, and the purchasing behavior of green products.

As mentioned at the beginning of the fourth chapter, data were gathered from different consumers in the Malaysian market. 537 questionnaires were distributed via mall intercept method and 448 questionnaires were returned, representing 83.5% participation. However, only 394 questionnaires were useable, hence the effective response rate was 73.4%.

Based on the PLS-SEM, the measurement model was assessed first followed by the structural model. The construct validity, convergent validity by factor loading, composite reliability and average variance extracted (AVE) and discriminant validity analysis was conducted.

The structural model was also examined to test the hypothesis relationship with the variables. PLS algorithms and bootstrapping were run to produce the

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coefficient of determination (R^2), effect size (f^2), predictive relevance of the model (Q^2), goodness of fit (GoF) and path coefficient. Out of ten hypotheses, six were supported.

Perceived value was found to have an impact on green purchasing behavior, however, the relationship between environmental concern and green purchasing behavior was not significant. Similar to the first hypothesis, green advertisement had a relationship with purchasing behavior of green products. Both the fourth and fifth hypotheses were not significant when tested with green purchasing behavior which were eco-label and availability of green products, while the sixth hypothesis tested the direct relationship between price of green products and purchasing behavior of green products and the results of the test showed that this hypothesis was supported.

The moderating variable was tested with four variables to find if it can improve the relationship between these constructs forming four hypotheses (H7, H8, H9 and H10). The first three hypotheses were all supported as green trust moderated the relationship between perceived value, environmental concern, and green advertisement with green purchasing behavior; however this moderating variable did not moderate the relationship between eco-label and green purchasing behavior.

5.3   Discussion of the Findings

Chapter One of this study stated four research questions and this segment provides a discussion on each of the research questions presented in this research. The empirical investigation on the relationship between the six independent variables (perceived value, environmental concern, green advertising, eco-label, availability of green products, and their price) and the moderation between these variables and green

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purchasing behavior have been presented in the earlier sections. The detailed discussion and critical evaluation of the findings are addressed as follows. The present study presented ten hypotheses to answer the four research questions. The following discussions concentrate on each of the research questions of this present study.

5.3.1 The Influence of Perceived Value and Environmental Concern on Purchasing Behavior of Green Products

Perceived value explains consumers' overall evaluation of green products, and in the field of green products, those consumers study the green product and try to find if it has a negative impact on the environment and evaluate the outcome with what they apparently expect. Consumers perceive values of green products differently, hence, their purchasing behavior could vary and such difference in their perception comes from their personal values, purchasing power, need for the green products and their personal preferences.

The first research question of this present study is: *Do perceived value of green products and environmental concern influence the purchasing behavior of green products?*

To answer this question (perceived value and environmental concern) the data was tested using the path coefficients and bootstrapping in SmartPLS 2.0 3M, and the results showed that perceived value was significant while environmental concern showed no impact.

In this study, perceived value showed a significant relationship with purchasing behavior of green products. This finding from the present study supports

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similar studies on environmental behavior done in the USA by Duman and Mattila (2005) and Taiwan by Chen and Quester (2006). The effect of this variable seems to be the same in the Malaysian context as the study of Yaacob and Zakaria (2011), which was done in the state of Pahang, generated same outcome. Overall, consumers always tend to care about the value of the products they pay for no matter where they come from or their background; similarly with green products, those who choose to go green expect the product to show certain characteristics, whether it is how these products are manufactured, whether they are harmful to the environment or if they can be recycled.

Environmental concern showed no significant relationship with purchasing behavior of green products. Despite having many studies that suggested an existence of a relationship between environmental concern and purchasing behavior of green products (e.g. Aman *et al.*, 2013; Kaufmann *et al.*, 2012; Magnusson *et al.*, 2008) and besides some suggesting that this behavior depends on the products' features and benefits, or the green products' accuracy in meeting their claim (e.g. Forkink, 2010; Luchs *et al.*, 2010), the results in this study suggested otherwise. When environmental concern was tested, it showed that it had no statistically significant impact on Malaysian consumers' green purchasing behavior. This result corresponds with the main gap of this research discussed in the problem statement, as many researchers in Malaysia suggested that Malaysian consumers do have environmental concern, could show sympathy to the environment and may even understand the importance of protecting the environment and worry about the effects of harming it; however, they still do not choose to purchase green products and such a concern does not reflect on their actual behavior. The reason for this to happen can be explained as Kaufmann *et al.* (2012) suggested that the effect of environmental concern can exist when there are

motivations to change the behavior. When consumers are asked to purchase green products just to help protect their environment, they do not show a favorable behavior towards this cause due to many factors that have been tested in this study such as the green products' high prices or due to the difficulty of finding these products.

5.3.2 The Influence of Eco-label and Green Advertisement on Purchasing Behavior of Green Products

The role of advertisement has always been relied on by marketers when they want their products and services to be known fast to consumers as the competitive world of marketing is always moving at a high speed. Advertisement has the ability of influencing consumers' behavior and deriving their choices, and plays a similar role as peers and governments. The need to have green advertisement comes from the fact that green products have to compete with other products and overcome the extensive public skepticism against green claims.

The second research question of this present study is: *Do green advertisement and eco-label influence the purchasing behavior of green products?*

In order to answer the second question of this study regarding the impact of green advertisement and eco-label on the purchasing behavior of green products, the path coefficients and bootstrapping in SmartPLS 2.0 3M were examined. As shown in Table 4.14, only green advertisement was found to be significant (H3) while eco-label was found to be not significant (H4). The results indicate that green advertisement can influence Malaysians' green purchasing behavior while eco-labels do not have much effect.

The findings of this present study seem to be consistent with Rahbar and Abdul-wahid (2011) and Zhu (2013) who stated that consumers tend to show favorable behavior towards green advertisements. This reflects on their actual behavior, especially when they are concerned about their environment. It is important to highlight the findings Kong *et al.* (2014) in which consumers will show a good response to green advertisement but are tied to their previous view about the corporates' environmental concern; this means that the reliability of corporates in their environmental claims is important to consumers and they will only accept green messages when they have a positive past experience with the corporates they are dealing with.

Eco-labels showed a non-significant relationship to green purchasing behavior. This outcome reiterates literature that showed a minimum impact of eco-label on green purchasing behavior (Wessells *et al.*, 1999; Sharaf, Isa & Al-qasa, 2015a). Despite having this result contradicting many previous studies that suggest an existence of influence of eco-label on green purchasing behavior (Rashid, 2009), some authors argued that having a workable and effective eco-label scheme is a difficult task in practice (Erskine & Collins, 1997). Others such as Sharaf and Isa (2017) argued that consumers may recognize eco-labels, however, this factor is not enough to influence their actual behavior automatically, and there must be other predictors that could help shape their decisions. Another reason for such an outcome can be stimulated from the suggestion of Loureiro and Lotade (2005), who limited the positive effect of eco-labels on developed countries where consumers have the knowledge, the will, and the capability of purchasing green products.

5.3.3 The Influence of Availability of Green Products, and Price on Purchasing Behavior of Green Products

The importance of studying price came from the general agreement by different authors that green products generally come with a high price, which could be an obstacle for consumers (Mc Kenzie-Mohr, 2000). Price will always be an indicator of consumers' intention to purchase different products, including green products, because almost all consumers are always price sensitive (Sharaf, Isa & Al-qasa, 2015b).

The third research question of this study is: *Do green products availability and price influence the purchasing behavior of green products?*

Two hypotheses were tested to answer this research question. The result from the empirical data analysis shows that green products' availability was found to be not significant (H5) while the price of green products was significant (H6) (see Table 4.15). These results indicate that green products' availability has no impact on Malaysian consumers' green purchasing behavior, but price has a strong impact among Malaysians.

For the hypothesis that received empirical support (H6), the findings are theoretically consistent with those of Pedro-Pereira-Luzio and Lemke (2013), who demonstrated a direct significant impact between the price of green products and consumers' purchasing behavior of green products. In addition, the present study's findings provide support for previous research that examined the price of green products and its relationship to consumers' actual behavior (e.g. Fotopoulos &

Krystallis, 2001; Peattie, 2001; Shahnaei, 2012; Sharaf & Isa, 2017; Verhoef, 2005). This relationship exists due to consumers' price sensitivity.

On the other hand, green products' availability showed no significant impact on consumers' purchasing behavior. This indicates that the availability of green products is not something Malaysian consumers are concerned about and hence it does not impact their actual behavior of green products. From the descriptive analysis in Chapter 4, in Table 4.2, we can see that the respondents' mean answer was 3.42 which means that their answers were more towards agreeing that they found green products, however it seems that this factor does not have any significant impact on their purchasing behavior of green products. In other words, this can be explained as Malaysians tending to find green products in their local supermarkets, however, this does not motivate them to go green. The reason for such a result can be related to either the primary issue of green products which is their premium price, hence despite having green products available consumers do not find themselves preferring to purchase them. Another explanation could either be blamed on the eco-label of green products as from the previous section, it was indicated that eco-labels had no impact on consumers' purchasing behavior of green products. This issue is critical in practical marketing implications; if the packaging of the products does not attract consumers, then some serious revision should be conducted to improve the eco-label and packaging of those products. Many studies suggested that availability of green products play a major role in effecting consumers' decision to purchase environmentally-friendly products (Zakowska-Biemans, 2011) and some stated that consumers find it difficult to locate green products in their local markets (De-Pelsmacker *et al.*, 2003). However, in the Malaysian context, it can be seen that the green wave has taken its part in the market and those products are now easier to find,

however, such a factor is not enough to motivate consumers to go green and other factors should be considered in order to come out with the desired outcome.

5.3.4   Green Trust as a Moderator

The fourth and final question of this present study is: *Does green trust moderate the relationship between perceived value of green products, environmental concern, green advertisement, eco-label, and the purchasing behavior of green products?*

The role of trust is one of the most important elements to form a social interaction, whether personal or even in daily life activities such as purchasing products. The green movement which started in recent decades started to spread bigger vibes, and many companies followed the trend to keep their customers satisfied. However, the fast rush into this market has led to many unreliable claims which made consumers sceptical towards green products. In relation to this, and with the enrichment of literature in this topic, Chen and Chai (2010) came out with the term "green trust" which basically refers to consumers' willingness to depend and believe in a product based on its environmental performance. It was perceived that the critical role of green trust would bridge the conversion of perceived value, environmental concern, green advertisement and eco-label to green purchasing behavior. Four hypotheses were developed to analyse the role of green trust as the moderating variable.

The results of this study showed that H7, H8, and H9 were all supported. It showed that green trust moderates the relationship between perceived value, environmental concern and green advertisement. The direct relationship between

perceived value and green purchasing was significant before involving the moderating variable, however after moderating those two variables with green trust, the relationship was stronger. This means when consumers have higher green trust, they will have a higher positive perceived value from green products, hence leading to them purchasing more green products.

When environmental concern was directly tested with green purchasing behaviour, the results showed no significant relationship, however, after green trust moderated the two variables, the results showed a significant relationship. This finding is very interesting as it can narrow the main gap of this study which has puzzled researchers for many years as consumers tend to have a certain level of concern towards the environment, however, their purchasing behavior was always limited. From the results of this hypothesis, we can understand that green trust is the main key to solving this issue, as consumers are actually worried about the environment and may even contribute in different ways to protect it such as recycling, reducing or reusing, and they even might be ready to purchase green products, but the lack of trust prevents them from doing so. As mentioned in the previous discussion, the many false claims of green activities corporates made in the past several years have lead to such a result.

Green trust also moderated the relationship between green advertisement and purchasing behavior. Like perceived value, green advertisement was tested directly and showed a significant impact on green purchasing behavior. However, with the moderation of green trust and as discussed in subsection 4.10 of the previous chapter, the moderating variable of green trust played a significant role in strengthening the already existing relationship between green advertisement and green purchasing

behaviour. This means that the more trust consumers have on the advertised products, the more that translates in an actual purchase of those green products.

Among the four hypotheses, only H10 was not supported in this study as the results of this research showed that green trust was not a moderating factor in translating eco-label and purchasing green products. Eco-labels failed to show any significant relationship with purchasing behavior when tested directly and when green trust moderated this relationship. Several possibilities can be discussed on why green trust did not show any significant relationship when it comes to eco-label and purchasing green products. The main reason can be explained by the work of Kangun and Polonsky (1995), which found that consumers usually do not understand green labels attached as eco-labels to products. This can be due to the sophisticated terms used in labelling green products which ordinary consumers may not be familiar with such as "pesticide-free" or "degradable". Furthermore, eco-labels are supposed to be attractive instruments to inform consumers about the environmental claims products hold, however, this is not the case in many green products. Most of these eco-labels try to use the limited space available to put as much information as possible on the benefits of the product and the environmental standard they meet, and this comes at the cost of the design of the label. A study conducted by Jacob (1984) specified this reason and stated that even when consumers trust eco-labels, they find it difficult to develop their concern from information overload on green products. If this is the scenario of consumers who trust eco-labels, Cherian and Jacob (2012) made it clearer when they found that for those who do not trust eco-labels – as the results of this study showed – they do not care much on what message these eco-labelled products hold. Therefore, it was only natural that consumers in this study who do not possess

green trust found eco-labels as a non-predicting variable to their green purchasing behavior.

5.4 Implication of the Study

This study sets out to understand whether the consumer's environmental concern, perceived value, green advertisement, eco-label, price of green products and green products' availability explain their environmentally conscious behavior. The overall findings of this study have several contributions to both practice and theory. The following sub-sections discuss these contributions.

5.4.1 Practical Implications

The findings of this study revealed that three critical factors influenced consumers' green purchasing behavior: perceived value, green advertisement, and price of green products. It provides insights on the four P's of the marketing mix and their implications on green products studied under different variables. The perceived value in this study is explaining the product itself and the value of it in the consumers' perception. Green advertisement and eco-labels explain promotion. Product availability highlights the third P, which is place. Last but not least is price, and these variables together with understanding environmental concerns and having green trust can give a broader understanding to marketers on their impact on consumers' actual green purchasing behavior. In a paper published by Samuelson (1938), is was stated that the approach to consumer theory suggests that consumers tend to follow a certain pattern when they behave, and this includes their purchasing behavior. The conclusion from the analysis of this study showed that the suggested pattern in green purchasing could start by consumers being concerned about the environment. After that, they

start to expect a certain value to be gained from green products, and companies subsequently promote green products via green advertisements which builds their interest. Once they are interested, their behavior leads to purchasing green products. Based on the above, policy makers can inform the Malaysian public of the importance of going green and the level of harm the environment is facing, which brings concern to consumers. They can start to evaluate the things they purchase and have green products as a partial solution, and from there the pattern goes on until the continuous purchase of environmentally friendly products is achieved. Such an understanding on how consumers tend to behave would be important for green marketers to engage with their customers.

Besides that, this study also found that green trust does aid converting environmental concern, perceived value and green advertisements into behavior. These specific findings would help marketers change their marketing strategies to focus more on the four factors that influence green purchasing behavior. Marketers would be able to prioritize building trust with consumers and strategize their approach in making reliable claims, which will help to encourage consumers to embark on their green journey. It is clear that consumers need to have sufficient information and even trials to start believing in green products and trust those more in order to follow the green wave and show a more positive behavior towards the going green concept. The present study shows that green trust as a moderator does have an impact on the perceived value of green products, environmental concern and green advertisements to behavior. As Malaysia moves towards its 2020 vision and is planning to be a green hub with tourism as one of the main backbones of the economy, people need to believe in the green cause which contributes directly and indirectly to that vision. This

will only happen when Malaysian consumers have no trust issues with green products, making them a main part of their daily households.

This study had also helped in profiling consumers when it comes to their actual behavior as green consumers. To a certain extent, the research profiled the consumers who frequently visited hypermarkets and supermarkets in Kedah, Perlis, and Penang and evaluated who and which segment tends to purchase green products. With such a profiling, local authorities together with green marketers will have the ability to target the proper age groups and launch their go green campaigns. The shopper profile in this study falls predominantly in the young age range (between 20 and 40 years old), which makes up nearly 70% of the respondents. Thus, with this understanding, green campaigns should focus more on this age group and the proper ways and means of reaching them should be considered such social media, while traditional means could be used less such as televised campaigns.

The role of perceived value in this study shows that no matter the type of product, having a green label with no real value to consumers is not an effective approach, as eco-labels turned out to be insignificant in this study while perceived value did. This proves that the old approach marketers usually followed by touching the emotional part and neglecting the practical part in their green products did not turn out well for green companies; many of the messages associated with green products usually focuses on the broader image of harming the environment and shows data and statistics of how the human behavior has led to environmental tragedies over the last century. However, when providing alternatives for consumers, green products are usually looked at as poorly packaged products or even with lower performance and quality compared to conventional products. Products with equivalent quality are then

priced at premium levels. The findings of this study can help marketers realize the gap that have puzzled them all this while and bring their attention to the value consumers look for in green products, whether that value is in its actual performance or in meeting its environmental claim.

The role of advertisement in shaping consumers' decision is another critical factor studied in this research, as green advertisement has a significant impact in consumers' green purchasing behavior. The outcome of this finding creates an opportunity for marketers to think about their marketing strategies of using green advertisements to promote their green products. Manufacturers developing green products need to aggressively advertise and find new venues in the Malaysian context to promote their products. Focusing more on what consumers value in a product can significantly help green corporates understand consumers' psychology in purchasing green. From the findings of this study, it is advised that marketers come up with the right mix of eco-friendly products and services, advertise these products, build trust and choose the right sales and marketing experts. This approach will help target and attract consumers who may be willing to make green products their daily choice. Corporates manufacturing green products and their marketing teams should identify the segmented groups and design appropriate branding and pricing. Additionally, it is suggested that retailers contribute in changing consumers' negative perception of premium prices green products have and make these products more affordable to a wider range of consumers, as the respondents have strongly linked price to their purchasing behavior. Reasonable prices can thus shape their perception in favor of green products.

In practical terms, this study's results bring recommendations for policy makers as well as marketers who promote environmentally friendly products or programs associated to the green concept, which aims to shift consumers to a pro-environmental behavior. The contribution of this study is essential for growing marketers' knowledge and empower them to identify the best psychographic and behavior to be applied in their marketing strategies. This will therefore give marketers the ability to define their targeted segment among the Malaysian population in the northern region.

5.4.2 Theoretical Implications

This research has taken a new perspective in the topic of green purchasing behavior by studying it through the theory of planned behavior. From the theoretical point of view, using Ajzen's theories is a sound approach for marketers who wish to gauge the different insights of consumer's actual purchasing behavior in the context of green marketing. With respect to the studied variables which are environmental concern, perceived value, green advertisement, eco-label, price of green products and green products' availability, and as seen in the findings of this study, a number of those variables appeared to be relevant indicators of green purchasing behavior in Malaysia. With those variables in hand, researchers should pay closer attention to the measurements that were found significant to purchasing behavior of that was used in the framework of this study and should find an opportunity to study the insignificant relations and the reason for these results.

Furthermore, the inclusion of green trust as a moderator to the model had also added better perspective on bridging the translation between perceived value,

environmental concern, green advertisement and behavior of the TPB model. The findings of the research strengthened the role of green trust which can be considered as a new concept in the body of green purchasing literature as it was only introduced by Chen and Chang in 2012. Not many studies have considered using this variable in their researches and fewer have used it as a moderating variable.

In relation to what was mentioned, this study has narrowed the main gap of green behavior's literature which has been highlighted repeatedly by several authors, which is the environmental concern gap with the purchasing behavior of green products. The inclusion of green trust narrowed that gap by turning it from a factor with no effect into an influencer of green purchasing behavior. This finding could help authors have a better understanding of the main problem of environmental concern and its relation to green behaviors such as green purchasing, and what variable could have been missing to come out with a workable framework.

Green living is more widespread now and is continuing to have an impact on businesses, organizations and governance worldwide. Multinational corporations embarked on green living as part of their corporate social responsibility due to the nature of their business activities which have social, environmental and ethical impacts on the nation. From the findings of this study, perceived value, green advertisement, and price of green products showed a significant direct relationship in predicting purchasing behavior. These factors are mostly tied to the individual perception of the consumers. However, the eco-label variable had no significant impact on green purchasing behavior. With and without the involvement of the moderating variable of green trust, such a finding guides green researchers to study more about environmental messages that are delivered via packaging which could

help increase the green products' purchase. Manufacturers of green products together with their producers can take advantage from proper packaging financially, and this could be made easier by providing pro-environmental attributes to the green products by taking into consideration the target audience's cultural and perceptual characteristics when designing eco-labels.

On the other hand, green marketers and researchers should work together to extend their analysis on how to motivate the public to shape their decisions to go green and therefore present factors that enhance pro-environmental behavior amongst the conservative consumer to encourage them to transform themselves into green consumers.

To recap this discussion, this study contributes to the body of knowledge in relation to the green purchasing behavior's literature. It provided some insights on the direct and indirect relations between perceived value, environmental concern, green advertisement, eco-label, availability of green products, and price of green products, and consumers' purchasing behavior under the umbrella of the theory of planned behavior. Such findings play a part in strengthening the role of TPB in explaining consumers' behavior. The study also showed that some variables cannot predict direct relations, hence researchers need to investigate more variables that could strengthen these relations.

5.5 Limitations of the Study

As is always the case in doing any research work, this study has a number of limitations that should be highlighted when interpreting the results. Addressing these limitations can create opportunities for future researches to consider. Firstly, this

study was limited with the use of the sample obtained from hypermarkets and supermarkets patrons in Kedah, Perlis and Penang. As such, their responses may not be representative of all consumers of different age brackets residing in diverse geographic locations. While this impedes the generalizability of the study, it must be acknowledged that this is indeed a common limitation of most survey research which has constraints in both time and budget.

A second limitation is that the study focuses on green products in general which could result in different perceptions and experience from one product to another as some green products consumers have previously used could be easier to find and have a price that is bearable such as organic food, while other green products could be difficult to purchase or not frequently purchased due to its technical nature such as eco-friendly refrigerators. Hence, a person's perception of ease and difficulty of obtaining a green product could vary from one experience to another.

A third limitation comes from the fact that this study was conducted in a period where the economic situation and purchasing power of Malaysians may have varied as the Malaysian currency dropped against the US dollar from RM3.40 in early 2015 to RM4.40 at the beginning of 2017 and currently standing at RM4.10. Such variance in the value of the currency can have an impact on consumers' ability to purchase green products and services in different timelines, hence, results from one period to another are not consistent.

Finally, a cross-sectional survey was adopted for this study in which data was collected within the period of four months. This issue of doing a cross-sectional survey is that the studied variables could change over time. Changes such as in

economic situations as mentioned in the previous point could have an impact on the research variables, and because this study is not longitudinal, it has a specified expected period of completion, hence a longer period for data collection is not feasible.

5.6   Recommendations for Future Research

While the previous section highlighted the limitations of this study, recommendations and suggestions for further studies are provided in this section.

First of all, the demographic variables were not considered as separate variables that could predict consumers' actual purchasing behavior. Some previous researches might have studied the effects of demographic factors. Studying these factors along with social and psychological variables used in this study could result in a better understanding of what influences Malaysians' purchasing behavior of green products.

A second suggestion is to conduct a study on specific green products. Researches could focus more on more accessible green products or products that could be used daily such organic food or shift their focus on new products growing fast in the market based on their demand. An example for a product that we could see flooding the market in the near future is eco-friendly cars that depend solely on electricity. This product is promising in almost every part of the globe and especially in the Asian market, which has a big population. While many governments are planning to shift all their automobiles to this technology in their near future, Malaysia should not be left behind in this race and there is a need to understand what motivates the public to go for this line of production as an interesting topic to study.

This study focused mainly on green purchasing behavior, however, since this study plays a small part in finding a solution to the environmental threats the world is facing by tackling the issue of purchasing harmful products, it would be interesting to study behavior as a multivariate with different dimensions such as conservation behavior and recycling behavior, as every different dimension could have its own results when conducting their statistical analysis. Moreover, researchers could start focusing on additional factors that could bring more insights to their studies such as understanding individuals' perception of benefits by introducing emotional values of green brands.

Another suggestion for authors is studying the role of religiosity in shaping consumers' purchasing behavior. There have been many debates with regards to this topic, and studying such a variable either as an independent variable or involving it in a framework as a moderating variable could help researchers and marketers understand what other motivations could help influence consumers' green purchasing behavior. If religiosity was found to be an important predictor of purchasing behavior, the way green products are marketed could be shaped in a better way that could meet consumers in an emotional way. If it happened to be not significant, then this method of approaching consumers could be put to bed and more effective ways would be given more attention.

Finally, a mixed method design is suggested to be adopted in future studies of green behavior, as conducting in-depth interviews together with surveys among respondents can help enrich information for the study. Additionally, following such a step will assist in validating the findings generated from the survey.

6.7 Conclusion

This study presented four research questions, and to answer these questions, a total of ten hypotheses were developed. The results of the analysis showed that perceived value, green advertisement and price of green products have a significant relationship with purchasing behavior of green products. However, environmental concern, eco-label and availability of green products showed no direct relationship with green purchasing behavior.

The four hypotheses for moderation effect yielded mixed results. The first hypothesis i.e. the moderation effect of green trust between perceived value and purchasing behavior was supported. In addition, green trust moderated the relationship between environmental concern and purchasing behavior of green products and the same result was found when green trust moderated the relationship between green advertisement and green purchasing behavior. However, the moderation effect of green trust between eco-label and purchasing behavior of green products was not supported.

In conclusion, this study has successfully answered the four main objectives of the research, which were: (a) to examine the influence of perceived value of green products and environmental concern on purchasing behavior of green products; (b) to investigate the influence of green advertisement and eco-label on purchasing behavior of green products; (c) to investigate the influence of green products availability and price on purchasing behavior of green products; (d) to examine the moderating role of green trust on the relationship between perceived value of green products,

environmental concern, green advertisement, eco-label, and the purchasing behavior

of green products among Malaysians.

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APPENDICES

Appendix A-1

QUESTIONNAIRE

(English Version)

Dear Respondents

The researcher would appreciate your help this research survey, which is designed to provide an understanding of Malaysian consumers' green purchasing behavior and knowing their actual behavior towards green products. Therefore, the accuracy and objectivity of your responses carefully reflect the extent of your interest and concern to our access to accurate and precise results that will benefit everyone.

The present survey is a part of my study for PhD degree that tries to determine the factors that affect the purchasing behavior of green product in Malaysia.

Please be assured that your response will be treated confidentially and will be used for the purpose of the research only.

Please read the questions carefully and answer them to the best of your ability.

With sincere thanks and appreciation,

Sincerely
Muhammed Abdullah Sharaf
PhD Candidate

School of Business management
Universiti Utara Malaysia
Email: mu21shi@yahoo.com

Part A: Demographic profile of the respondents

For each question please place (√) in the boxes where appropriate or fill in the details in the spaces provided.

1. Age ……………….. Year

2. Gender: ☐ Male ☐ Female

3. Race: ☐ Malay ☐ Chinese ☐ Indian ☐ Others

4. Education Level: ☐ SPM ☐ Undergraduate ☐ Postgraduate ☐ Other

5. Place of residence: ☐ Penang ☐ Perlis ☐ Kedah

8. Income/month: ☐ Less than 2000 ☐ 2000-3999 ☐ 4000-5999

☐ 6000-7999 ☐ 8000-9999 ☐ more than 10000

PART B:

Dear Respondents

Please indicate your response to the following statements according to the scale below.

1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

In your rating please remember the following points.

1- Please answer each of the statement related to the questions by ticking (√) alongside the cell that best describe your answer.

2- Some of the questionnaire may appear to be similar but they do address somewhat different issue, please read each question carefully.

3- Please answer all questions- do not omit any.

4- Never tick more than one answer.

Part B is divided into five sections

SECTION ONE
Purchasing Behavior

	Purchasing Behavior	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1	I often by green products					
2	I make a special effort to buy paper and plastic products that are made from recycled materials					
3	When I have a choice between two equal products, I purchase the one less harmful to other people and the environment					
4	I make a special effort to buy household chemicals such as detergents and cleansing solutions that are environmentally friendly.					
5	I have avoided buying products that have potentially harmful environmental effects.					

SECTION TWO

	Perceived Value and Environmental Concern	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
6	I get very good value from Green products' function					
7	I am satisfied with Green products' performance					
8	I purchase a green product because it has more environmental benefits than other products					
9	I purchase a green products because it has more environmental concern than other products					
10	I purchase a green products because it is environmentally friendly					
11	I am highly concerned about the environment					
12	I think environmental issues are consumers' responsibility					
13	I wish to see less packaging waste generated by processed products.					
14	I am worried about how all of my activities affect the environment.					
15	I believe that environmental issues are an emergency issue.					
16	I often think about how the environmental quality of Malaysia can be improved.					

SECTION THREE

	Green Advertisement and Eco-label	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
17	I have seen advertisement recommending the use of green products.					
18	I believe advertising contributes to the knowledge about benefits of green products.					
19	I trust green advertisements.					
20	I think green advertisements are attractive.					
21	I make proper purchasing decisions based on green advertisements guidance.					
22	I enjoy watching broadcasts of green advertisements.					
23	I consider what is printed on eco-labels to be accurate.					
24	I easily understand The information on eco-labels.					
25	I'm satisfied with the information available on the eco-label of the green products I purchased.					
26	I understand the information on green products.					
27	I believe in the information on green products.					
28	I appreciate the package/design of green products.					

SECTION FOUR

	Price and Availability of Green Products	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
29	I know where the green product displays are in my supermarket.					
30	I easily find green products in my supermarket.					
31	I am willing to buy green products if they are accessible/available in my supermarket.					
32	I always find green products that I want to buy.					
33	I find green products that I need easily.					
34	Green products are easy to reach.					

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35	I would choose environmentally friendly goods and services, campaigns or companies if the price were the same.					
	Price and Availability of Green Products "continued"	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
36	I'm willing to pay more for environmentally friendly products.					
37	If the price of green products is less expensive I'm willing to change my lifestyle by purchasing green products.					
38	To me, it is acceptable to pay more for groceries that are produced, processed and packaged in an environmentally friendly way.					
39	I would accept paying more for an environmental cleanup program.					
40	I would be willing to spend an extra in order to buy less environmentally harmful products.					
41	I feel proud to have environmental friendly products in my house though they cost more.					

SECTION Five
Trust

	Trust	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
42	I believe that green product's environmental image is generally reliable.					
43	I think that green product's environmental functionality is generally dependable.					
44	I believe that green product's environmental claims are trustworthy.					
45	The green product's environmental performance meets my expectations.					
46	The green products keep promises for environmental improvement.					

Thank you for your time and cooperation..!

QUESTIONNAIRE

(Bahasa Melayu Version)

SOAL SELIDIK

Responden yang dihormati,

Penyelidik amat menghargai bantuan anda dalam kajian yang direka untuk memahami tabiat sebenar pengguna Malaysia terhadap pembelian produk 'hijau'. Oleh itu, ketepatan dan objektiviti jawapan anda mencerminkan tahap kecenderungan dan keperihatinan kepada kami untuk mendapatkan keputusan yang tepat dan mendalam bagi memanfaatkan orang ramai.

Kajian ini merupakan sebahagian daripada kajian ijazah PhD saya untuk menentukan faktor-faktor yang mempengaruhi tingkah laku pembelian produk hijau di Malaysia.

Jawapan anda akan dirahsiakan dan akan digunakan untuk tujuan penyelidikan sahaja.

Sila baca soalan dengan teliti dan jawab dengan terbaik mengikut kemampuan anda.

Dengan ucapan terima kasih dan setinggi- tinggi penghargaan,

Yang ikhlas,
Muhammed Abdullah Sharaf
Calon PhD
Pusat Pengajian Pengurusan Perniagaan

Universiti Utara Malaysia
Emel: mu21shi@yahoo.com
Bahagian A: Profil Demografik Responden

Bagi setiap soalan sila tandakan (√) di dalam ruang yang bersesuaian atau isikan maklumat di ruangan yang disediakan.

1. Umur……………….. Tahun

2. Jantina: ☐ Lelaki ☐ Perempuan

3. Bangsa: ☐ Melayu ☐ Cina ☐ India ☐ Lain-lain

4. Tahap pendidikan : ☐ SPM ☐ Sarjana Muda ☐ Sarjana ☐ Lain-lain

5. Tempat tinggal : ☐ Pulau Pinang ☐ Perlis ☐ Kedah

8. Pendapatan/sebulan: ☐ Kurang 2000 ☐ 2000-3999

☐ 4000-5999 ☐ 6000-7999

☐ 8000-9999 ☐ lebih 10000

BAHAGIAN B:

Para responden,

Sila tandakan respon anda untuk menyatakan pendapat anda mengikut skala yang diberikan.

1 Sangat tidak setuju	2 Tidak setuju	3 Tidak pasti	4 Setuju	5 Sangat Setuju

Sila gunakan skala tersebut di dalam penilaian anda.

1- Sila jawab setiap pernyataan di bawah dengan menandakan (√) dalam kotak mengikut jawapan terbaik anda.

2- Sesetengah soal selidik berkemungkinan berulang tetapi ia berkait dengan isu yang berlainan. Sila baca dengan teliti.

3- Sila jawab semua soalan- jangan dibiar kosong.

4- Jangan tanda melebihi satu jawapan.

Bahagian ini dibahagikan kepada lima bahagian.

BAHAGIAN I
Tabiat pembelian

	Tabiat pembelian	1 Sangat tidak Setuju	2 Tidak Setuju	3 Tidak Pasti	4 Setuju	5 Sangat Setuju
1	Saya selalu beli produk 'hijau'					
2	Saya usaha lebih untuk membeli kertas dan plastic yang diperbuat daripada barangan kitar semula.					
3	Apabila saya mempunyai dua pilihan produk yang sama, saya membeli produk yang kurang berbahaya terhadap orang ramai dan persekitaran.					
4	Saya usaha lebih untuk membeli bahan pencuci berkimia seperti detergen dan pencuci bahan larut yang mesra alam.					
5	Saya mengelak dari membeli barangan yang berpotensi memberi kesan berbahaya kepada alam sekitar.					

BAHAGIAN II

		1 Sangat tidak Setuju	2 Tidak Setuju	3 Tidak Pasti	4 Setuju	5 Sangat Setuju
6	Saya mendapat nilai yang bagus dari fungsi produk 'hijau'.					
7	Saya berpuas hati dengan prestasi produk 'hijau'.					
8	Saya membeli produk 'hijau' kerana ia lebih banyak memberi faedah kepada alam sekitar berbanding produk yang lain.					
9	Saya membeli produk 'hijau' kerana ia lebih mengutamakan alam sekitar berbanding produk lain.					
10	Saya membeli produk 'hijau' kerana ia lebih mesra alam.					
11	Saya sangat prihatin terhadap alam sekitar.					
12	Saya berpendapat isu alam sekitar adalah tanggungjawab pengguna.					
13	Saya berharap agar kurangnya sisa pembungkusan hasil daripada produk yang telah diproses.					

		1	2	3	4	5
14	Saya khuatir tentang bagaimana semua aktiviti saya memberi kesan kepada alam sekitar.					
15	Saya yakin isu alam sekitar merupakan isu penting.					
16	Saya seringkali memikirkan tentang bagaimana kualiti alam sekitar Malaysia dapat ditingkatkan.					

BAHAGIAN III

		1 Sangat tidak Setuju	2 Tidak Setuju	3 Tidak Pasti	4 Setuju	5 Sangat Setuju
17	Saya telah melihat pengiklanan yang mencadangkan penggunaan produk 'hijau'					
18	Saya yakin pengiklanan menyumbang kepada pengetahuan mengenai faedah produk 'hijau'.					
19	Saya percaya pengiklanan 'hijau'.					
20	Saya merasakan pengiklanan 'hijau' adalah menarik					
21	Saya membuat keputusan yang bijak berdasarkan daripada pengiklanan 'hijau'.					
22	Saya menikmati menonton siaran pengiklanan produk 'hijau'.					
23	Saya mempertimbangkan apa yang dicetak diatas Eko-label adalah tepat.					
24	Saya mudah memahami maklumat yang terdapat pada eko-label.					
25	Saya berpuas hati dengan maklumat yang terdapat pada eko-label produk 'hijau' yang telah dibeli.					
26	Saya memahami maklumat yang terdapat pada produk 'hijau'.					
27	Saya percaya dengan maklumat yang terdapat pada produk 'hijau'.					
28	Saya menghargai pembungkusan atau reka bentuk produk 'hijau'.					

BAHAGIAN IV

		1 Sangat Tidak Setuju	2 Tidak Setuju	3 Tidak Pasti	4 Setuju	5 Sangat Setuju
29	Saya tahu dimana produk 'hijau' dipaparkan di dalam pasar raya.					

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30	Saya dapat mencari produk 'hijau' dalam pasar raya dengan mudah.					
31	Saya sanggup membeli produk 'hijau' jika ia ada/boleh didapati dalam pasar raya.					
32	Saya sentiasa mencari produk 'hijau' yang dikehendaki.					
33	Saya dapat mencari produk 'hijau' yang saya perlu dengan mudah.					
34	Produk 'hijau' senang didapati.					
35	Saya rela memilih produk dan servis yang mesra alam, kempen atau syarikat jika harganya sama.					
36	Saya sanggup membayar lebih bagi produk yang mesra alam.					
37	Jika harga produk 'hijau' lebih murah, saya sanggup mengubah gaya hidup dengan membeli produk 'hijau'.					
38	Bagi saya, ia boleh diterima bagi barangan runcit yang dihasilkan, diproses dan dibungkus secara mesra alam.					
39	Saya rela membayar lebih bagi program pembersihan alam sekitar.					
40	Saya sanggup berbelanja lebih bagi membeli barangan yang tidak berbahaya terhadap alam sekitar.					
41	Saya merasa bangga memiliki barangan mesra alam di dalam rumah saya walaupun harganya mahal.					

BAHAGIAN V
Kepercayaan

	Kepercayaan	1 Sangat Tidak Setuju	2 Tidak Setuju	3 Tidak Pasti	4 Setuju	5 Sangat Setuju
42	Saya percaya imej mesra alam produk 'hijau' secara umumnya boleh dipercayai.					
43	Saya merasakan fungsi mesra alam produk 'hijau' secara umumnya boleh diharapkan.					
44	Saya percaya bahawa dakwaan produk 'hijau' adalah mesra alam boleh dipercayai.					
45	Prestasi mesra alam produk 'hijau' mencapai jangkaan saya.					
46	Produk 'hijau' menepati janji untuk peningkatan alam sekitar.					

Terima kasih di atas masa dan kerjasama anda...!

Appendix B

Descriptive Statistics for Demographic Variables

age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<20	30	5.5	5.5	5.5
	2-29	240	44.2	44.2	49.7
	30-39	130	23.9	23.9	73.7
	40-49	99	18.2	18.2	91.9
	≥50	44	8.1	8.1	100.0
	Total	543	100.0	100.0	

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	219	40.3	40.3	40.3
	female	324	59.7	59.7	100.0
	Total	543	100.0	100.0	

race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	malay	300	55.2	55.2	55.2
	chinese	191	35.2	35.2	90.4
	indian	47	8.7	8.7	99.1
	other	5	.9	.9	100.0
	Total	543	100.0	100.0	

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education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	spm	197	36.3	36.3	36.3
	undergraduate	201	37.0	37.0	73.3
	postgraduate	78	14.4	14.4	87.7
	other	67	12.3	12.3	100.0
	Total	543	100.0	100.0	

income/month

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<2000	244	44.9	44.9	44.9
	2000-3999	203	37.4	37.4	82.3
	4000-5999	67	12.3	12.3	94.7
	6000-7999	19	3.5	3.5	98.2
	8000-9999	5	.9	.9	99.1
	≥10000	5	.9	.9	100.0
	Total	543	100.0	100.0	

Appendix C

Missing data
Result Variables

	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
1	pb1_1	1	1	394	394	SMEAN(pb1)
2	pb2_1	1	1	394	394	SMEAN(pb2)
3	pb3_1	1	1	394	394	SMEAN(pb3)
4	pb4_1	0	1	394	394	SMEAN(pb4)
5	pb5_1	0	1	394	394	SMEAN(pb5)
6	pv1_1	0	1	394	394	SMEAN(pv1)
7	pv2_1	0	1	394	394	SMEAN(pv2)
8	pv3_1	2	1	394	394	SMEAN(pv3)
9	pv4_1	2	1	394	394	SMEAN(pv4)
10	pv5_1	1	1	394	394	SMEAN(pv5)
11	ec1_1	5	1	394	394	SMEAN(ec1)
12	ec2_1	0	1	394	394	SMEAN(ec2)
13	ec3_1	3	1	394	394	SMEAN(ec3)
14	ec4_1	0	1	394	394	SMEAN(ec4)
15	ec5_1	0	1	394	394	SMEAN(ec5)
16	ec6_1	1	1	394	394	SMEAN(ec6)
17	ga1_1	0	1	394	394	SMEAN(ga1)
18	ga2_1	0	1	394	394	SMEAN(ga2)
19	ga3_1	1	1	394	394	SMEAN(ga3)
20	ga4_1	3	1	394	394	SMEAN(ga4)
21	ga5_1	1	1	394	394	SMEAN(ga5)
22	ga6_1	1	1	394	394	SMEAN(ga6)
23	el1_1	0	1	394	394	SMEAN(el1)
24	el2_1	1	1	394	394	SMEAN(el2)
25	el3_1	1	1	394	394	SMEAN(el3)
26	el4_1	2	1	394	394	SMEAN(el4)
27	el5_1	0	1	394	394	SMEAN(el5)
28	el6_1	1	1	394	394	SMEAN(el6)
29	pa1_1	0	1	394	394	SMEAN(pa1)
30	pa2_1	1	1	394	394	SMEAN(pa2)
31	pa3_1	2	1	394	394	SMEAN(pa3)
32	pa4_1	2	1	394	394	SMEAN(pa4)
33	pa5_1	0	1	394	394	SMEAN(pa5)
34	pa6_1	0	1	394	394	SMEAN(pa6)
35	pp1_1	0	1	394	394	SMEAN(pp1)
36	pp2_1	1	1	394	394	SMEAN(pp2)
37	pp3_1	1	1	394	394	SMEAN(pp3)
38	pp4_1	0	1	394	394	SMEAN(pp4)
39	pp5_1	2	1	394	394	SMEAN(pp5)
40	pp6_1	1	1	394	394	SMEAN(pp6)
41	pp7_1	1	1	394	394	SMEAN(pp7)
42	t1_1	1	1	394	394	SMEAN(t1)
43	t2_1	1	1	394	394	SMEAN(t2)
44	t3_1	2	1	394	394	SMEAN(t3)
45	t4_1	1	1	394	394	SMEAN(t4)
46	t5_1	1	1	394	394	SMEAN(t5)

Appendix D

Test of Non-respondent Bias

Group Statistics

	Bias	N	Mean	Std. Deviation	Std. Error Mean
Pbehavier	1.00	365	18.0966	3.44740	.18045
	2.00	168	18.2640	3.18586	.24579
Value	1.00	365	19.2922	2.86051	.14973
	2.00	168	19.5707	3.05372	.23560
Econcern	1.00	365	24.2885	3.38818	.17735
	2.00	168	24.5121	3.57855	.27609
Advertise	1.00	365	22.6076	3.62889	.18994
	2.00	168	22.6937	3.77422	.29119
Ecolabel	1.00	365	22.9104	3.39611	.17776
	2.00	168	22.8739	3.20090	.24695
availability	1.00	365	20.0512	4.23168	.22150
	2.00	168	19.8671	4.61220	.35584
Price	1.00	365	26.5605	4.19556	.21961
	2.00	168	26.0279	4.25178	.32803
trust	1.00	365	19.3647	2.98524	.15625
	2.00	168	19.0893	2.98265	.23012

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pbehavier	Equal variances assumed	.870	.351	-.533	531	.594	-.16738	.31394	-.78410	.44934
	Equal variances not assumed			-.549	349.006	.583	-.16738	.30492	-.76709	.43233
Value	Equal variances assumed	2.079	.150	-1.022	531	.307	-.27851	.27248	-.81379	.25677

|										
	Equal variances not assumed			-.998	306.218	.319	-.27851	.27915	-.82781	.27078
Econcern	Equal variances assumed	3.555	.060	-.695	531	.487	-.22365	.32157	-.85536	.40806
	Equal variances not assumed			-.682	309.098	.496	-.22365	.32814	-.86932	.42203
Advertise	Equal variances assumed	1.276	.259	-.251	531	.802	-.08605	.34265	-.75916	.58706
	Equal variances not assumed			-.248	313.329	.805	-.08605	.34766	-.77010	.59800
Ecolabel	Equal variances assumed	.051	.822	.118	531	.906	.03658	.31102	-.57439	.64755
	Equal variances not assumed			.120	342.680	.904	.03658	.30428	-.56191	.63506
availability	Equal variances assumed	2.386	.123	.453	531	.650	.18408	.40602	-.61352	.98168
	Equal variances not assumed			.439	300.767	.661	.18408	.41914	-.64075	1.00890
Price	Equal variances assumed	2.946	.087	1.356	531	.176	.53256	.39281	-.23910	1.30422
	Equal variances not assumed			1.349	320.685	.178	.53256	.39476	-.24408	1.30919
trust	Equal variances assumed	.378	.539	.990	531	.323	.27546	.27824	-.27113	.82205
	Equal variances not assumed			.990	324.820	.323	.27546	.27815	-.27175	.82267

Descriptive

|		SMEAN (pb1)	SMEAN (pb2)	SMEAN (pb3)	SMEAN (pb4)	SMEAN (pb5)	SMEAN (pv1)	SMEAN (pv2)	SMEAN (pv3)	SMEAN (pv4)	SMEAN (pv5)	SMEAN (ec1)	SMEAN (ec2)	SMEAN (ec3)	SMEAN (ec4)	SMEAN (ec5)	SMEAN (ec6)	SMEAN (ga1)	SMEAN (ga2)	SMEAN (ga3)	SMEAN (ga4)	SMEAN (ga5)	SMEAN (ga6)
N	Valid	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		3.63	3.69	3.97	3.80	3.91	3.84	3.81	3.94	3.94	3.99	4.07	4.24	4.18	3.92	4.20	3.95	3.83	3.96	3.838	3.79	3.85	3.76
Std. Deviation		.834	.796	.826	.815	.745	.673	.712	.723	.717	.697	.714	.724	.717	.766	.787	.799	.728	.740	.790	.794	.766	.781
Minimum		1	1	1	1	1	1	1	2	1	2	1	2	2	1	1	1	1	1	1	1	1	1
Maximum		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

|		SMEAN (el1)	SMEAN (el2)	SMEAN (el3)	SMEAN (el4)	SMEAN (el5)	SMEAN (el6)	SMEAN (pa1)	SMEAN (pa2)	SMEAN (pa3)	SMEAN (pa4)	SMEAN (pa5)	SMEAN (pa6)	SMEAN (pp1)	SMEAN (pp2)	SMEAN (pp3)	SMEAN (pp4)	SMEAN (pp5)	SMEAN (pp6)	SMEAN (pp7)	SMEAN (t1)	SMEAN (t2)	SMEAN (t3)	SMEAN (t4)	SMEAN (t5)
N	Valid	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532	532
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		3.78	3.83	3.19	3.86	3.91	4.03	3.45	3.53	3.78	3.60	3.59	3.58	4.00	3.70	4.04	3.84	3.78	3.81	3.77	3.90	3.89	3.93	3.80	3.95
Std. Deviation		.779	.718	.712	.735	.706	.681	.914	.939	.727	.807	.921	.935	.738	.830	.774	.720	.761	.764	.845	.634	.733	.690	.768	.749
Minimum		1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1
Maximum		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

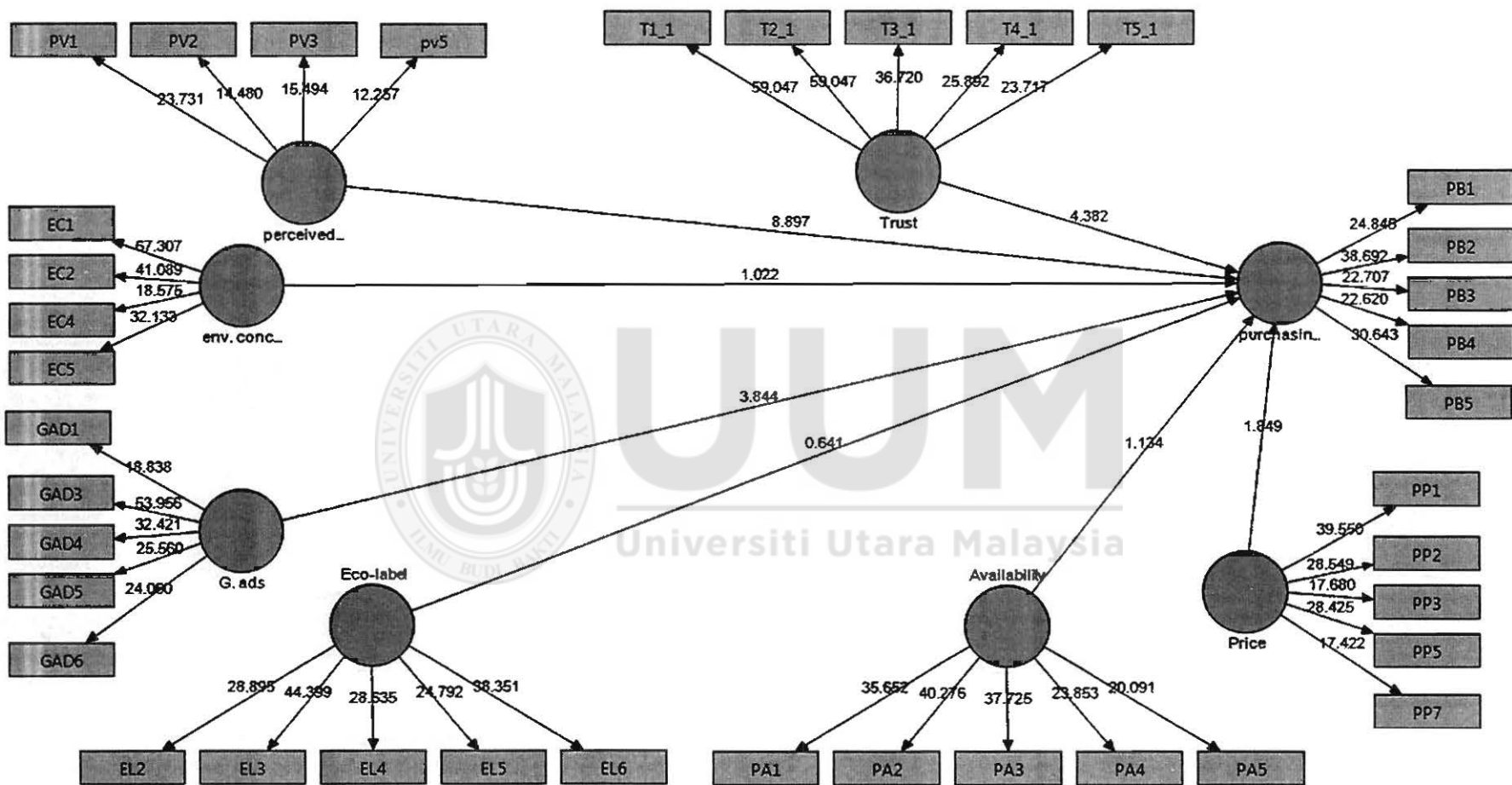## Analysis Phases of the Study's Model In PLS
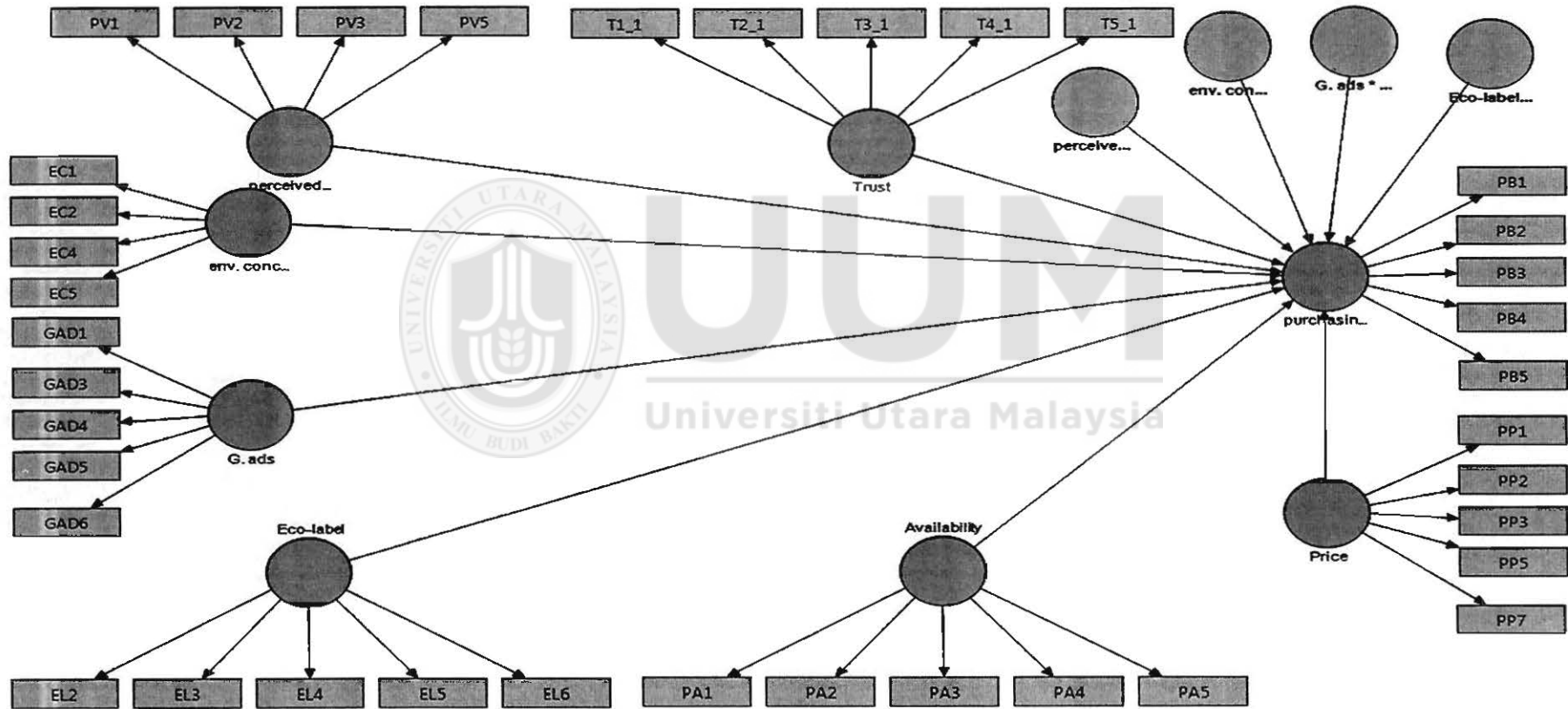
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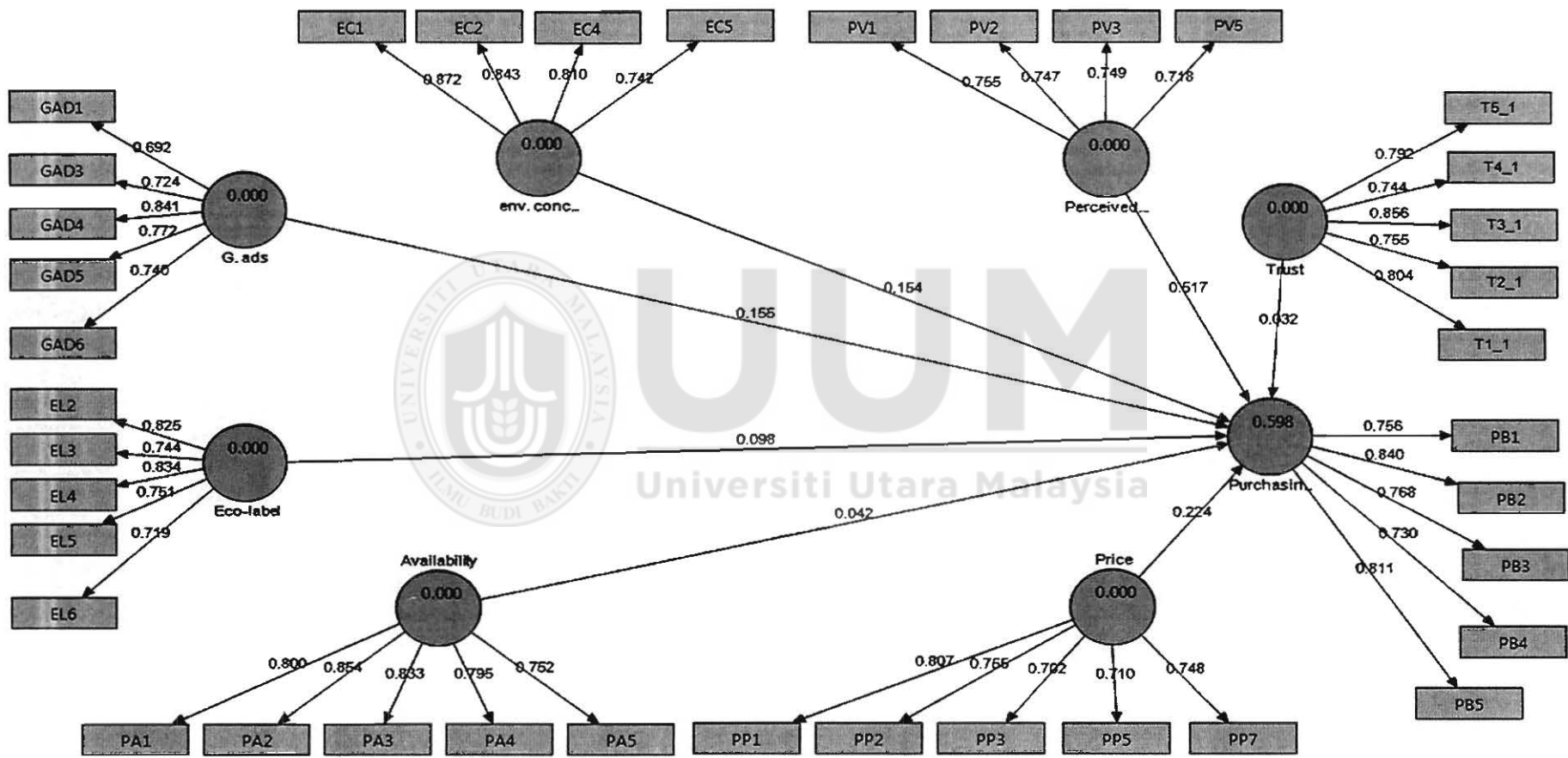
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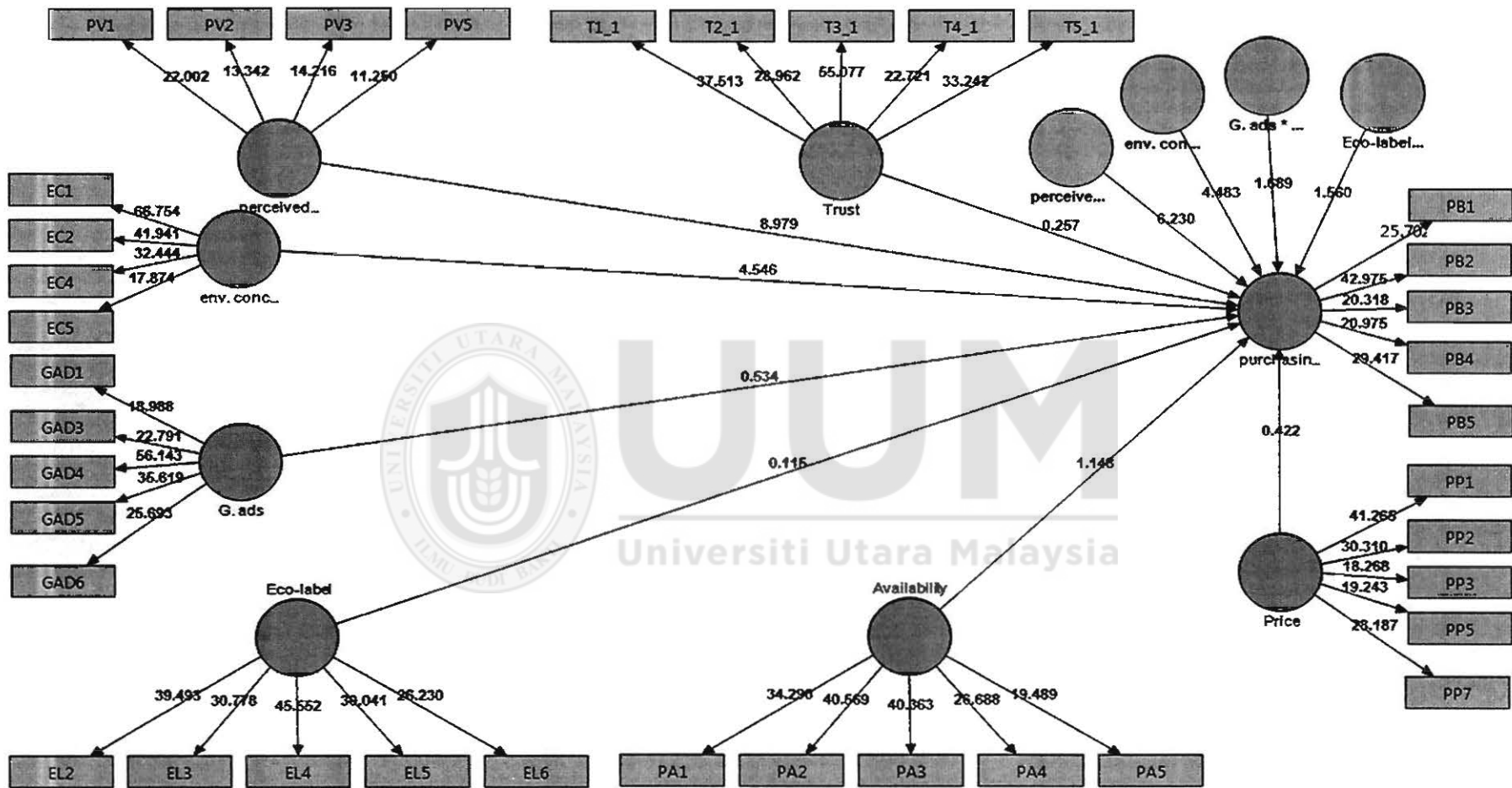
PLS Bootstrapping (t-value) for the study model

PLS Bootstrapping (t-value) for the study model without moderator

Appendix F

Research Assistant

Name	Occupation	Place of work	Contact number	Location of assistance
Nur Wahidah Binti Muhammad	HR admin	Young Living Malaysia Sdn Bhd	017-558-9402	Kedah-Perlis
Nadiatul Nadira Binti Abdul Rahim	Customer services and admin executive	FM Global Logistics Sdn Bhd	014-908-2417	Kedah
Lau Shun Man	Director and founder	Candela Talent Centre	016-440-3054	Penang
Pee Zhi Jun	Sales executive	Monarch Aesthetic Sdn Bhd	016-567-9395	Penang