CONSUMPTION VALUES, CONSUMERS ATTITUDE, BRAND PREFERENCE AND INTENTION TO PURCHASE HYBRID CAR AMONG MALAYSIAN CONSUMERS

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ABSTRACT

This study focuses on the determinants of hybrid car purchase intention in the Malaysian automotive industry. This study conceptualizes consumption values as a multi-dimensional construct which consists of five dimensions of values, i.e. functional value, symbolic value, emotional value, novelty value, and conditional value. This study examines the relationships between consumption values, consumers' attitudes toward the hybrid car, brand preference, and intention to purchase the hybrid car. This study also examines the role of attitudes toward the hybrid car as a mediator and brand preference as a moderator of intention to purchase the hybrid car. Including both the mediating and the moderating factors in this study allows a more precise description of the relationships between all the variables mentioned and the outcome of the study. This study involves 306 respondents from the Klang Valley. Out of the 17 hypotheses tested, nine are supported. The analyses reveal positive relationships between functional value, emotional value, and consumers' attitudes toward the hybrid car and the intention to purchase it. Besides, a significantly positive relationship is found among functional value, emotional value and conditional value, and the consumers' attitudes toward the hybrid car. Consumers' attitudes toward the hybrid car mediate the relationship between functional value, emotional value and conditional value and the intention to purchase the hybrid car. On the other hand, brand preference does not moderate the relationship between consumers' attitudes toward the hybrid car and the intention to purchase it. The study also highlights the implications and limitations of the study as well as the suggestions for future research.

Keywords: consumer attitudes, hybrid car, purchase intention, structural equation modeling and theory of consumption values.

ABSTRAK

Kajian ini memfokuskan kepada faktor-faktor penentu bagi niat membeli kereta hibrid dalam industri automotif di Malaysia. Kajian ini mengkonseptualisasikan nilai penggunaan sebagai suatu konstruk multidimensi yang terdiri daripada lima dimensi nilai, iaitu nilai fungsian, nilai simbolik, nilai emosi, nilai sesuatu yang baharu, dan nilai bersyarat. Kajian ini mengkaji hubung kait antara nilai penggunaan, sikap pengguna terhadap kereta hibrid, jenama kegemaran, dan niat membeli kereta hibrid. Kajian ini juga mengkaji peranan sikap pengguna terhadap kereta hibrid sebagai faktor perantara dan jenama kegemaran sebagai faktor penyederhana terhadap niat membeli kereta hibrid. Dengan adanya faktor perantara dan faktor penyederhana dalam kajian ini, ia memberikan penerangan yang lebih tepat tentang hubung kait sesama semua pemboleh ubah berkenaan dan hasil daripada kajian tersebut. Kajian ini melibatkan seramai 306 orang responden dari Lembah Klang. Tujuh belas hipotesis telah diuji, dan didapati sembilan daripada hipotesis tersebut adalah disokong. Analisis menunjukkan wujud hubung kait yang positif sesama nilai fungsian, nilai bersyarat, dan sikap pengguna terhadap kereta hibrid dengan niat membeli kereta hibrid. Selain itu, didapati wujud hubung kait yang positif sesama nilai fungsian, nilai emosi, dan nilai bersyarat dengan sikap pengguna terhadap kereta hibrid. Sikap pengguna terhadap kereta hibrid mengantarakan hubung kait sesama nilai fungsian, nilai emosi, dan nilai bersyarat dengan niat membeli kereta hibrid. Sebaliknya, jenama kegemaran tidak menyederhanakan hubungan antara sikap pengguna terhadap kereta hibrid dan niat membeli kereta hibrid. Kajian ini juga mengetengahkan implikasi dan batasan penyelidikan serta cadangan bagi penyelidikan pada masa hadapan.

Kata kunci: sikap pengguna, kereta hibrid, niat membeli, pemodelan persamaan struktural, dan teori nilai penggunaan.

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LIST OF ABBREVIATION

AVE	Average Variance Extracted
BP	Brand Preference
CA	Consumers' Attitudes on Hybrid Car
CFA	Confirmatory Factor Analysis
CR	Composite Reliability
CV	Conditional Value
ECCB	Ecological Conscious Consumer Behavior
EV	Emotional Value
f^2	Effect Size
FV	Functional Value
LL	Lower Limit
MPV	Multi-purpose Vehicle
NV	Novelty Value
PLS	Partial Least Square
R&D	Research and Development
R^2	R Square
SEM	Structural Equation Modeling
Sig.	Significant
SPSS	Statistical Package for Social Sciences
Std.	Standard
SV	Symbolic Value
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UL	Upper Limit
US	United States
VIF	Variance Inflation Factor
YTD	Year to date

CHAPTER 1

INTRODUCTION

1.1 Chapter Overview

This chapter discusses issues related to green purchase intention in Malaysia. It begins with the background of the study, followed by problem statement, research objectives and research questions, scope of the study and significance of the study. The chapter ends by providing the definition of the terms and the organization of the thesis.

1.2 Background of the Study

Malaysia is one of the earliest countries in the world which is concerned about environmental issues. In 1974, Malaysia has taken a serious consideration regarding the environment by enacting the Environmental Quality Act. Later in 2009, the Malaysian government has established the Ministry of Energy, Green Technology and Water (KeTTHA) by Prime Minister Dato' Sri Mohd Najib bin Tun Abdul Razak. The mission of this Ministry is to innovate and manage resources strategically thereby ensuring availability, accessibility, reliability and affordability or energy and water services and to champion the application of green technology and to promote green economy and green living. As an effort to achieve it mission, the ministry has enacted the National Green Technology Policy. Thereafter, Malaysian government has taken an approach for the sustainability of the environment which known as AFFIRM. This acronyms stands for Awareness, Faculty, Finance, Infrastructure,

Research, development and commercialization and Marketing and it is designed to obtain commitment from all stakeholders in committing towards the environmental protection in Malaysia ("Malaysia Green Forum 2010," 2010). There are corporates that have implemented green marketing strategies in Malaysia for example 3M, Canon and Digi, to name a few. 3M Company believed that prevention is better than cure concept where they stressed on prevention of pollution from the source whereas Canon organized Clean Earth Campaign which emphasized on recycling of cartridge (Ooi, Kwek,& Tan, 2012).

In Malaysia, environmental friendly concept or green marketing is still in its infant stage and is considered as a new marketing concept. "Going-green" is now extending to Asian countries. Like many Asian countries, Malaysia is facing the same environmental issues. However, Malaysian citizens' awareness of green living is relatively low as compared to western countries. Malaysian citizens' are still unaware of the consequences of environmental degradation. In Malaysia, consumers' awareness for green products is relatively low (Lee, Ling, Yeow, & Hasan, 2012; Nik Ramli, 2009).

According to previous studies, there are factorssuch as subjective or perceived knowledge towards the environment which stimulate consumers to behave in a green manner and it also influences consumers' beliefs that they are helping to solve environmental issues (Ellen, Wiener,& Cobb-Walgren, 1991). As the environment continues to worsen, developing countries are starting to become aware of the importance of the green movement to preserve the environment. In developed countries, environmental degradation is affecting the economy and policies

(Ramayah, Lee,&Mohamad, 2010). The Malaysian Prime Minister, Dato' Seri Mohd Najib Abdul Razak, mentioned that green issues have become a world concern ("Malaysia Green Forum 2010," 2010). This indicates that the green concept just started in 2010 in Malaysia.

Rapid growth of the economy has caused over-consumption and utilization of natural resources. This, in turn, has also caused environmental degradation. Environmental degradation has caused global warming, depletion of the stratospheric ozone layer, pollution of seas and rivers, noise and light pollution, acid rain and desertification around the world (Ramlogan, 1997). Many catastrophic environmental incidents have occurred in Malaysia, such as the mud flood and landslide incident in Cameron Highlands and the floods in East Coast (Institute of Islamic Understanding Malaysia [IKIM], 2014) which caused huge damage.

Malaysian consumers are still not aware of the pollution happen around them. The main caused of air pollution in Malaysia is mainly because of motor vehicles. This can be proved from the data provided by Department of Statistics Malaysia (2013). In the year 2012, there was 2,024,600 metric tons of air pollution produced by motor vehicles which is equals to 68.5 percent of the total air pollutant. There is an increase of 6.2 percent a year before and 24.1 percent as comparedto year 2006. From the 2,024,600 metric tons, 1,779.4 metric tons are carbon monoxide, 226.2 metric tons are nitrogen dioxide, 14.4 metric tons are sulphur dioxide and 4.6 metric tons are particulate matter. From news reported by Pereira and Lavendran (2012), Malaysia is one of the worst global polluters. Malaysia ranked 55th out of 61 countries with a score of 47.53 out of 100. Therefore, hybrid caris one of the important green

products which could help to reduce the pollution level by recycling the waste heat and energy.

By this, we can infer that consumers have realized that their consumption behaviour can cause environmental problems (Carrete, Castaño, Felix, Centeno, & González, 2012; Nabsiah, Elham, & Tan, 2011). This is because environmental problems are closely related to the industry's production pattern as well as the direct or indirect consumers' consumption pattern and behaviour. Due to this reason, businesses have begun to modify their behaviour in an attempt to address society's new concerns by offering green products, which are also the main concern in today's world (Cannis, 2001). This is because green products could help to improve the environmental quality and sustain the environment.

Nowadays, consumers are more concerned with changing their behaviour as the way to protect the environment. Apart from that, one of the most effective ways that consumers could change the environment is by consuming or purchasing green products. Consumers can do this by supporting the green activities and changing their purchase behaviour. Several authors (Kalafatis, Pollard, East,& Tsogas, 1999; Gardyn, 2003) argue that consumers' buying behaviour does not support their claim of environmental protection (Akehurst, Afonso & Gonçalves, 2012). In other words, it means that consumers do not always act according to their claims. This has become an issue for marketers and researchers. Therefore, in order to understand consumers' behaviour, it is important to find key factors that are really effective in leading consumers to act rather than merely make claims.

Apart from that, Malaysian Automotive Industry witnesses the Malaysia development. Historically, Malaysia automotive industry began in the early 1960s when Malaysian government emphasis on industrialization by developing a policy to promote an integrated automotive industry to strengthen its industrial base and reduce its dependency on agricultural sector. In May 1964, Malaysian government announced a policy to urge the local assembly if vehicles and manufacturing of automotive components. Later on, the government of Malaysia adopted an import substitution policy where high import duties will be imposed to the importations of completely built-up vehicles as an effort to encouraged foreign companies to setting up automobile assembly plants in Malaysia. The main objectives were to reduce the imports of completely built-up vehicles, to create job opportunities to the citizen and to provide the base of transfer technology (Mohd Uzir& Kanageswary, 2004).

Malaysia automotive industry entered into second phase development in the year 1980s when the government came out with the national car policy or national automobile project. This project was carried out through joint venture with Mitsubishi Motors Corporation to produced national cars for Malaysian citizens. The first national car project commenced operation in 1985 known as Proton Saga by Proton (Perusahaan Otomobil Nasional) with the direct support from the then Prime Minister, Tun Dr. Mahathir Mohamed. After the success of first national car project, second national car project debut in 1994 known as Perodua Kancil by Perodua (Perusahaan Otomobil Kedua). This project is a joint venture project with Daihatsu Motor Co. Ltd. Perodua had become most popular car brand in Malaysia surpassing Proton. The entry of Proton and Perodua into automobile industry has shifted from

assembly activity to automobile parts and manufacture of automobiles (Mohamad Rosli &Fatimah, 2008).

In addition to the environmental issue, the Malaysian automotive industry is facing a challenge to become a regional hub for energy efficient vehicles with the aim of achieving at least 85 percent of vehicles produced in Malaysia being energy efficient vehicles by 2020 (Malaysia Automotive Association, 2014b). Malaysia is the 22nd largest automotive manufacturer in the world, the third biggest car market in ASEAN (with three car manufacturers, eight car assemblers, nine motor assemblers and more than 800 component manufacturers), and the biggest automotive market in Southeast Asia with more than half a million sales per year (Lim, 2012). However, there is only one car manufacturer (i.e., Perodua) and one car assembler (i.e., Honda) that produce energy efficient vehicles in Malaysia. Therefore, in order to overcome the challenge, the first thing is to identify the level of consumers' intention to purchase energy efficient vehicles, such as the hybrid car.

According to Abdullah, Riza Atiq, and Amiruddin (2007), vehicle is the second most common mode of transportation used in Malaysia. However, most Malaysian consumers are not aware that the motor vehicle is the main source of air pollution. The increase of the number of motor vehicles on the road in Malaysia has caused the level of air pollution to increase day by day. This can be proven from the data provided by the Department of Statistics Malaysia. In 2012, 2,024,600 metric tons of air pollutants were produced by motor vehicles, equal to 68.5 percent of the total air pollutants. In order to reduce the air pollution produced by motor vehicles, people

should shift from using regular cars to the green car, such as the hybrid car (Department Statistics Malaysia, 2013).

The automotive industry is one of the important sectors in Malaysia which helps to boost the economy by contributing direct and indirect taxes and reducing the unemployment rate. According to a media statement provided by the Ministry of International Trade and Industry regarding the National Automotive Policy 2014, the Malaysian automotive industry contributed RM30 billion to the national Gross Domestic Product (GDP) and employed more than 550,000 workers in 2013. The automotive sector has also contributed knowledge and skills through technological advancement and the opportunity to grow other businesses, such as the tooling and auto-parts industry, which have boosted the country's industrialization program.

Energy-efficient vehicles might be a new technological revolution that could reshape the Malaysian automotive industry. Vehicles were first of the gasoline type, followed by electric type and now the hybrid type, which combines internal combustion and electric engines. The hybrid car is considered as one of the energy efficient vehicles or green vehicle. The hybrid car may change the consumers' preference due to the increase of oil price, global warming and climate change.

There is a total of 46 brands of motor vehicles available in the Malaysian automotive market. However, only seven foreign brands (i.e., Toyota, Honda, Nissan, AUDI, Lexus, BMW and Porsche) have introduced the hybrid car to the Malaysian market. Up to June 2014, there were around 48,732 units of hybrid cars sold in Malaysia which is considered low as shown in Table 1.1. Since the actual behaviour to

purchase the hybrid car only accounts for 3 percent of the market, it is very important to understand the 97 percent of consumers' intention to purchase the hybrid car. Thus, in order to successfully market and sell the hybrid car, it is important to understand what consumers think (consumers' attitudes), what causes them to act (consumption values) and how they act (green purchase intention).

Table 1.1
Comparison between Hybrid Car and Passenger Car Sold in Malaysia from Year 2011 to 2013

Year	Hybrid Car		Passenger Car	
	Total Unit Sold	**Market Share (%)**	**Total Unit Sold**	**Market Share (%)**
2011	8403	1.57	535,113	98.43
2012	15355	2.78	552,189	97.22
2013	18967	3.29	576,657	96.71

Source: Malaysia Automotive Association. Summary of Sales & Production Data. Retrieved from http://www.maa.org.my/info_summary.htm

1.3 Problem Statement

Green product is considered as a new product in Malaysia. According to a market survey, nearly 80 percent of Malaysian consumers have shown their willingness to pay more to support green products (Lung, 2010). However, according to a study conducted by Nor Azila et al. (2012), only 30 percent of the total respondents are categorized as green consumers. Green purchase behaviour is not encouraging among Malaysian consumers. Since green product is consider a new product, investigate intention is more useful and advisable than actual behaviour. This is because intention forms before performing behaviour. Therefore, in order to predict consumers' behaviour, it is important to understand what shapes individuals' opinion and caused an intention.

According to Chu and Lu (2007), value had been considered as important predictor and played a role in convincing consumers to purchase the green products (Wei, Qi, & Liu, 2015). Purchase intention increase when consumers perceived more benefits than they pay for a product (Dickson & Sawyer, 1990). Thaler (1985) also consider perceived value as an important factor in influencing consumer purchase intention. Besides, Young, Hwang, McDonald, and Oates (2009) have identified a value-action gap regarding consumers' buying behaviour while Peattie and Crane (2005) have identified a significant gap in concerns and actual purchase behaviour. The value-action gap refers to consumers' claim that they are concerned about the environment. However, they have a hard time to carry out the action. Scholars have argued that there is a gap between consumers claim and action (Kalafatis et al., 1999; Gardyn, 2003). Hence, the consumption values will play a better role in predicting consumers' purchase intention as compared to TPB or TRA.

Extensive research has been carried out based on theory of planned behaviour (TPB) or theory of reasoned action (TRA). However, there are some limitations, especially in predicting behaviour. First and foremost, the determinants of intention should not limited to only subjective norms, perceived behavioural control and attitude. According to Ajzen (1991); and Werner (2004), empirical studies have shown that only 40 percent of the behaviour could be explained by the TPB or TRA. However, previous studies (Wang, Liao, & Yang, 2013; Lin, Huang, & Wang, 2010; Lin & Huang, 2012) had adopted or adapted theory of consumption values shown that

above 40 percent of the behaviour could be explained by theory of consumption values.

Secondly, the assumption that individuals are free to act without any limitations is often unfounded. Practically, individuals are often limiting by the constraints such as ability, time, environment or unconscious habits. The time frame between behavioural intention and actual behaviour has not been addressed by the theory. Individual might change from time to time due to the mentioned factors. The longer the time interval between behavioural intention and actual behaviour, the less likely the behaviour will occur.

Thirdly, environmental or economic factor that may influence the consumers' intention to perform behaviour is not taken into account in the TPB or TRA, although they consider normative influence. Unconscious motives are not considered as it assumes that human beings are rational and make systematic decisions based on available information. However, theory of consumption value comprise of five consumption values. Each consumption values are independent and included the environmental and economic factors. For example, functional value was operationalized as price and quality while epistemic value was operationalized as environmental knowledge and product knowledge.

Lastly, the TPB and TRA are predictive models used to predict individuals' action based on certain criteria that have been set. As mentioned earlier, individuals do not always behave as predicted by those criteria and it might change from time to time.

Therefore, theory of consumption values developed by Sheth, Newman, and Gross (1991) is applied in this study is because the models have been proved in predicting behaviour and no assumption underlying in the theory.

Apart from that, companies have found difficulty in creating long-lasting competitive advantage that could ensure their survival in the global market. According to Woodruff (1997), value is a major source of competitive advantage. Besides, value is one of the important concerns that consumers perceived. Therefore, marketers or companies must be able to create value for consumers in order to stay competitive in the market. Additionally, variables, such as values and attitudes, have been shown to drive consumers' intention in purchasing environmental friendly products, such as the hybrid car (Bui, 2005). Without examine the values affecting attitude, one cannot provide a full picture of consumers' mind of purchase decision, even though intention is a good predictor of behaviour (Schiffman & Kanuk, 1997). For this reason, consumers' attitude is chosen as a mediator to test the relationship between consumption values and green purchase intention. Its unique conceptualization of product value provides a multidisciplinary approach that helps to understand actual consumer behaviour in a market choice situation.

To date, studies that examine brand preference as a moderator in moderating the relationship between consumers' attitudes and green purchase intention are lacking in the Malaysia context. However, several moderators have been included in previous studies, such as perceived consumer effectiveness (Kim, 2011); willingness to pay more (Chan, 2013); and eco-label awareness (Nik Ramli, 2009). This means

that there is a gap and we seek to address this gap. Brand preference is one of the brand equities and should be studied since brand preferences lead to purchase intention, actual purchase behaviour, consumers satisfaction, consumers loyalty and repurchase intention. The success of a brand depends on brand preference. When consumers consider the brand as their first preference list, it means that consumers are satisfied with their previous purchase experience. According to Karr (2015), around 59 percent of shoppers prefer to purchase new products from the brand they familiar. In other word, at least 59 percent of the customers who purchase a new product from the brand are returning customers. This shows that the important of brand preference. Once consumers are satisfied with their purchase, they will list the brand as their preference brand.In addition, brand preference is an indicator of the success of marketing tactics (Davis, 2014). Therefore, this study includes brand preference as a moderator which moderates the relationship between consumers' attitude toward the hybrid car and hybrid car purchase intention.

Practically, there is a contradiction between researchers' prediction and the actual market trend. According to Ooi et al. (2012), Cheah (2009); Chen and Chai (2010) have discovered an increased demand for green products in Malaysia. It means that there are indications that hybrid car sales may grow in Malaysia in near future. However, the actual market trend shows that there is a low level of actual purchase behaviour of hybrid car in Malaysia. According to Malaysia Automotive Association (2014), hybrid car only occupied three percent of market share in the automotive industry as mentioned earlier. Less than 50,000 units of hybrid car were registered in Malaysia over the past seven years.

According to news reported by Mahalingam (2014), the hybrid vehicle sales in Malaysia fell from 6,803 units to 6,007 units for the first six months of 2013 and 2014. However, the total vehicle sales grew by 6.3% from 2013 for the first half of 2014. Based on previous sales, hybrid vehicle sales have been growing year by year. Hybrid car sales should continuously grow as new models of hybrid cars are being introduced to the market. This indicates an abnormal market trend since government has been actively promoting green to the public.

Apart from that, as compare to ASEAN partner (Thailand), in 2013, 37,530 units of hybrid car were registered in Thailand (Laoonual, 2013), while only 18,967 units of hybrid car were registered in Malaysia (Malaysia Automotive Association, 2014). This shows a very low level of actual purchase behaviour in Malaysia. Elham and Nabsiah (2011) have found that awareness on green products as an alternative to non-eco-friendly products is not widely promoted among consumers in Malaysia. Therefore, this could be the reason of low actual purchase behaviour as consumers are not aware of the importance of green products.

Thus, this study is carried out using the theory of consumption values as the underpinning theory which can predict, describe and explain factors affecting consumers' consumption behaviour. Apart from that, how consumers' attitude acts as mediator in mediating the relationship between consumption values and hybrid car purchase intention, as well as the influence of brand preference on the relationship between consumers' attitude and hybrid car purchase intention, are examined.

1.4 Research Questions

Based on the issues discussed in the problem statement and to achieve the research objectives, this study seeks to address the following research questions:

1. What is the level of consumers' intention to purchase the hybrid car among Malaysian consumers?
2. What is the level of consumers' attitude toward the hybrid car among Malaysian consumers?
3. Does consumers' attitude toward the hybrid car influence consumers' intention to purchase the hybrid car?
4. Do consumption values (functional value, symbolic value, emotional value, novelty value, conditional value) influence consumers' intention to purchase the hybrid car?
5. Do consumption values (functional value, symbolic value, emotional value, novelty value, conditional value) influence consumers' attitude toward the hybrid car?
6. Does consumers' attitude toward the hybrid car mediate the relationship between consumption values (functional value, symbolic value, emotional value, novelty value, conditional value) and consumers' intention to purchase the hybrid car?
7. Does brand preference moderate the relationship between consumers' attitude toward the hybrid car and consumers' intention to purchase the hybrid car?

1.5 Research Objectives

Based on the research background and problem statement discussed above, the main objective of this research is to determine the antecedents of intention to purchase the hybrid car. Specifically, the research objectives are as follows:

1. To determine the level of consumers' intention to purchase the hybrid car in Malaysia.
2. To determine the level of consumers' attitude toward the hybrid car in Malaysia.
3. To examine the influence of consumers' attitude toward hybrid car on consumers' intention to purchase the hybrid car.
4. To examine the influence of consumption values (functional value, symbolic value, emotional value, novelty value, conditional value) on consumers' intention to purchase the hybrid car.
5. To examine the influence of consumption values (functional value, symbolic value, emotional value, novelty value, conditional value) on consumers' attitude toward the hybrid car.
6. To investigate whether consumers' attitude toward the hybrid car mediates the relationship between consumption values (functional value, symbolic value, emotional value, novelty value, conditional value) and consumers' intention to purchase the hybrid car.
7. To determine whether brand preference moderates the relationship between consumers' attitude toward the hybrid car and consumers' intention to purchase the hybrid car.

1.6 Definition of Key Terms

The important terms that appear often in this study are defined as follows:

Green purchase intention**:**the probability and willingness of a person to include green products in their purchase preference and consideration (Nik Ramli, 2009). Intention to purchase a hybrid car or hybrid car purchase intention is used interchangeably in this study. The meaning of intention to purchase a hybrid car or hybrid car purchase intention refers to the consumers' consideration to purchase the hybrid car.

Consumption values: desirable approach to attain individual values (Lai, 1995). It is a multiple-value approach. Five consumption values were identified by Sheth et al. (1991). There are functional value, social value, emotional value, epistemic value and conditional value. Social value is replaced by symbolic value while epistemic value is replaced by novelty value.

Functional value**:**the effectiveness of a product in delivering its functionality or physical performance derived from its characteristics or attributes (Sheth et al., 1991).

Symbolic value**:**the meaning and image carried by the product (Sheth et al., 1991).

Emotional value:the effectiveness of the product that arouses the feeling (Sheth et al., 1991).

Novelty value**:**the effectiveness of the product that creates something new, leads to curiosity and/or fulfils the desire for knowledge (Sheth et al., 1991).

Conditional value: add-on values or specific benefit to the product's functional or social value (Sheth et al., 1991).

Attitude**:**a favorable or unfavorable response to a particular object (Fishbein & Ajzen, 1975).

Brand preference**:** a brand that consumers prefer to purchase compared to other brands within the same industry (Hellier, Geursen, Carr, & Rickard, 2003).

Hybrid car: a car that combines internal combustion and electric engines to move the vehicles. The hybrid car uses gasoline to power internal combustion engine and electric batteries to power the electric motor (Edmunds, 2013).

1.7 Scope of the Study

The main objective of this study is to determine the antecedents of hybrid car purchase intention; therefore consumers are chosen to further study the variability in the action-value gap of the hybrid car purchase intention in Malaysia. The population of this study comprises consumers in the Klang Valley and the sample comprises consumers who have visited the selected showrooms located in the Klang Valley. Klang Valley consumers were chosen is because the standard of living in Klang Valley which reflects the affordability of consumers to purchase a hybrid car is

higher than rural cities.The cities included in this study to serve as the sample population are Kuala Lumpur, Ampang Jaya, Petaling Jaya, Subang Jaya, Shah Alam and Klang. The main reason for choosing consumers who have visited the selected showrooms as the respondents of this study is because their intention to purchase a new vehicle is higher.

The hybrid car is chosen in this study to represent the green products. This is because hybrid car is one of the high involvement green products which can generate social identity and status (Oliver & Lee, 2010). Besides, the hybrid car is the future car that can contribute to the economy and improve environmental quality. Therefore, it is believed that this study can provide some significant contributions to academicians, practitioners, automotive producers and the government, as discussed in the following section.

1.8 Significance of the Study

This study aims to determine the antecedents of intention to purchase the hybrid car based on the theory of consumption values. Besides, this study uses structural equation modeling (SEM) for its analysis. Thus, it is hoped the findings of the study can benefit academicians, marketers, the government and automotive producers. The specific contributions are discussed below.

As mentioned earlier in the problem statement, most of the past studies on green purchase intention adapted or adopted the TPB (e.g., Afzaal & Israr, 2012; Chan, 2013; Hong et al., 2013; Iman Khalid & Yuserrie, 2011; Kim & Chung, 2011; Tan,

2013) or the TRA (e.g., Chan, 2001; Nabsiah et al., 2011; Ooi et al., 2012; Ramayah et al., 2010; Punitha & Azmawani, 2011; Vazifehdoust, Taleghani, Esmaeilpour, Nazari, 2013). This study extends the theory of consumption values by adding two new variables that can provide a better understanding of intention to purchase the hybrid car in the context of consumers' behaviour. There is a need to further understand the factors influencing intention to purchase the hybrid car. Besides, this study will alert the researchers to the current theory of consumption values to contribute to the theory in different contexts and different research areas.

The theory of consumption values has been studied in different contexts. However, there is limited study based on the theory of consumption values (i.e., Alesia et al., 2014) to examine green purchase intention, specifically in Malaysia. To support the statement above, the recent studies conducted on green purchase intention in Malaysia have been based on the TPB (Chan, 2013; Hong et al., 2013; Iman Khalid & Yusserie, 2011; Tan, 2013); or the TRA (Nabsiah et al., 2011; Ooi et al., 2012;Punitha & Azmawani, 2011;Ramayah et al., 2010). Therefore, the suggested model of the study to determine the antecedents of hybrid car purchase intention would enrich the conceptualization of consumer behaviour in the Malaysia context. Besides, this study wish to increase the number of studies that adopt the theory of consumption values in future, specifically in the Malaysia context.

Previous studies have focused on environmental attitude rather than consumers' attitude toward predict green purchase intention, as well as the mediator between the predictor and green purchase intention. However, as suggested by Hong et al. (2013), there is a need to consider consumers' attitude in future studies. This also indicates a

lack of studies on specific attitudes. This is because Tan (2011) found a lower attitude-behaviour correlation if attitude is operationalized as general attitude. Therefore, this study addresses the gap between attitude-behaviour by including consumers' attitude toward the hybrid car as both a predictor and mediator.

Additionally, this study contributes to the existing body of research on hybrid car purchase intention by testing the functional value (price, quality and maintenance cost); symbolic value (social value, social influence and self-identity); emotional value and novelty value (product knowledge and environmental knowledge); and conditional value (government support and manufacturing promotion) in green purchase intention in Malaysia. Results of direct and indirect impacts of antecedents of hybrid car purchase intention can increase the empirical literature in marketing, consumer behaviour and other disciplines. It is hoped that the direction of the relationship of this study can address the theoretical inconsistency that exists in previous literature.

This study is one of the pioneering studies that add brand preference and consumers' attitude as new variables to the theory of consumption values. The mediating effects of attitude have been widely tested, especially under the TPB and TRA. However, this study is one ofthe studies that add brand preference and consumers' attitude toward the theory of consumption values in Malaysia, lack of research has been conducted in this direction for the theory of consumption values. A few existing studies (i.e., Alesia et al., 2014) only include attitude. Therefore, this study is a study that extends the theory of consumption values by adding brand preference and consumers' attitude.

Marketing factors (i.e., price, quality, maintenance cost, social value, social influence, self-identity, government support, manufacturing promotion, product knowledge);and environmental factors (i.e., environmental knowledge) are included in this study as new dimensions of the consumption values theory. For instance, price, quality and maintenance cost are the dimensions of functional value; social influence, self-identity and social value are the dimensions of symbolic value; product knowledge and environmental knowledge are the dimensions of novelty value; and government support and manufacturing promotion are the dimensions of conditional value. Most of the previous studies have only focused on price and quality for functional value (e.g., Alesia et al., 2014); and social value (e.g., Punitha & Azmawani, 2011). The previous studies have found that functional and social values do not significantly influence consumers' attitude or green purchase intention. Therefore, it is justified to add the new dimensions rather than just focus on the previous dimensions.

In addition, this study is the one of the first empirical study that examines the moderating effect of brand preference between consumers' attitudes and hybrid car purchase intention. As mentioned earlier, previous studies have considered willingness to pay more, perceived consumers' effectiveness and eco-label awareness; however none of the studies has examined brand preference as moderator. Therefore, this study can benefit academician with an additional role of brand preference as moderator instead of predictor or factor and wish to increase the number of Malaysian empirical studies in the automotive and green product industries.

Apart from theoretical contributions, this study also contributes to the stakeholders. This study provides a better understanding of consumers' intention to purchase the hybrid car, specifically. Most of the previous studies have focused on green purchase intention, i.e., mainly general green products. Hence, the findings of the previous studies could not be generalized to all green products, especially high involvement green products (e.g., the hybrid car). One of the objectives of this study is to determine the level of consumers' intention to purchase the hybrid car. After determining the level of consumers' intention, if the intention to purchase the hybrid car among Malaysian consumers is low, marketers can provide information to create consumers' awareness about the importance of the hybrid car in sustaining the environment for the future generation. On the other hand, if the level of consumers' intention to purchase a hybrid car is high, marketers can establish proper communication (e.g., promotions, discount and after sales services) which can influence the consumers to convert their intention into actual behaviour.

Besides, the main objective of this study is to determine the antecedents of hybrid car purchase intention, specifically, the factors influencing consumers' intention to purchase the hybrid car. With this objective, the study can provide managers with the factors that they should focus on in order to create consumers' intention to purchase the hybrid car. By examining the effect of the factors on consumers' intention to purchase, the mangers can obtain information on the strength and weakness of each factor that impacts consumers' intention to purchase. By using statistical analysis to quantify and know the impact of the factors, managers can get information on the benefits of improving each of the factors on consumers' intention to purchase. This

information also provides managers with some insights regarding the future of the hybrid car.

This study has also beneficial to the government or policy makers as a guide for them to better support the green product industry, in general, and automotive industry, in particular. As mentioned earlier, the automotive industry contributes about RM30 billion to the national GDP and is seem as one of the important industries in Malaysia. Further, one of the objectives of the national automotive policy (NAP) is to become the regional hub for energy efficient vehicles. Therefore, this study can provide some insight to the policy makers or the government by estimating the actual behaviour through the level of consumers' intention to purchase the hybrid car, which can further help to determine whether the objective of the NAP can be achieved and whether there is a necessity to revise the policy. One of the reasons for the tremendous increase of hybrid car sales from 2008 to 2012 was due to the tax exemption policy (Hong et al., 2013; Mahalingam, 2013). However, the tax exemption policy ended in 2014. If a consumer's pose a higher intention to purchase the hybrid car, the government should consider the appropriate policy to be implemented in future to generate hybrid car sales volume.

Further, our national brands (i.e., Proton and Perodua) have lost their market share to other brands although they are still the top two brands in terms of market share and sales volume. Apart from that, our national brand automotive producers (i.e., Proton and Perodua) have not introduced any hybrid car to the market. Therefore, the findings of this study are expected to be useful for the national brand automotive producers to predict the future of the hybrid car in Malaysia and consider whether to

produce the hybrid car or any other green car that can compete with other producers. With the challenges currently faced by automotive producers due to globalization, this study is expected to provide significant information on the factors that influence the consumers' intention to the automotive producers to cater to the needs of different segments of the automotive market.

1.9 Organization of the Thesis

This thesis consists of five chapters: introduction, literature review, research methodology, results and findings, discussion and conclusion. A summary of each chapter is as follows:

Chapter 1 provides a brief introduction, background and the study's research problem. It then outlines the research questions with research objectives, significance of the study, scope of the study and the contribution to knowledge. The chapter then ends with the organization of the study.

Chapter 2 briefly discusses the purchase behaviour in Malaysia. The chapter also reviews previous literature on variables used in the structural model in terms of green purchase intention. The factors that influence consumers' attitude and green purchase intention are also discussed in this chapter.

The variables used to form the theoretical framework and hypotheses formulation are discussed before the end of this chapter.

Chapter 3 provides research methodology used in this study consisting of research design, study sample and population, sampling technique, data collection technique, measurements, results of pilot test and the statistical method used to analyse the data.

Chapter 4 focuses on the analysis and results or findings of the study, including the response rate, participants' profile, descriptive results of main variables, factor analysis, reliability analysis and relevant statistics to explain the findings.

Chapter 5 is the last chapter for this thesis. This chapter presents the discussion and conclusion of the study. It discusses the major findings of the study and then elaborates on the research limitations and future research suggestions.

CHAPTER 2

LITERATURE REVIEW

2.1 Chapter Overview

This chapter provides a comprehensive overview of the literature pertaining to this study. The chapter starts with the chapter overview followed by marketing concepts, such as green marketing, green consumerism, green products and green purchasing. Thereafter, green purchasing intention as the dependent variable is explained, followed by consumers' attitude, brand preference and consumption values (functional value, symbolic value, emotional value, novelty value and conditional value). After the explanation of each variable in this study, the influence of brand preference as moderator and the influence of consumers' attitude as mediator are explained in the next section. The research model development is then explained, followed by the underpinning theory. In the final section, the research hypotheses are developed.

2.2 Green Marketing

Environmental issues, such as global warming, have become global issues that need immediate action from consumers and organizations to preserve the environment. Terms like recyclable, refillable, ozone friendly and environmentally friendly, are often associated with green marketing (Polonsky, 1994). Green marketing is a new trend in modern business; even developing countries have started to follow this emerging trend today (Kassaye, 2001; Kotabe & Helsen, 2004; McDaniel &Rylander,

1993; Pujari & Wright, 1996;Tan & Lau, 2010). Green marketing comprises a broad range of activities, such as product modification, differences in production process, packaging changes and changes in advertising style that can be applied to consumer goods, industrial goods as well as services (Polonsky, 1994).

According to Peattie (2001), the evolution of green marketing can be divided into three phases. The first phase is called "Ecological" green marketing, where all marketing activities focused on environmental problems and providing remedies. "Environmental" green marketing is the second phase and the focus shifted to clean technology which involved designing innovative new products to address pollution and waste issues. The third phase is "Sustainable" green marketing and it came into prominence in the late 1990s and early 2000. Green marketing was first discussed in 1975 in the first workshop on "Ecological Marketing" by the American Marketing Association (AMA).

Henion and Kinnear (1976), define ecological marketing as "the study of the positive and negative aspects of marketing activities on pollution, energy depletion and non-energy resource depletion". Three key components are included in this definition: it is a subset of overall marketing activities; it examines both positive and negative aspects; and a narrow range of environmental issues (Polonsky, 1994). Other similar terms, such as environmental marketing and sustainable marketing, refer to the organization's efforts at designing products, promoting products, pricing products and distributing products that do not harm the environment (Pride & Ferrell, 1993). In late 1980s and early 1990s, green marketing was given prominence. A more comprehensive definition for green marketing, according to Polonsky (1994, p. 2), is:

> *"Green or environmental marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs with minimal detrimental impact on the natural environment."*

Most of the traditional marketing components are included in the definition above as defined by Stanton and Futrell (1987), i.e., "all activities designed to generate and facilitate any exchange intended to satisfy human needs or wants". Voluntary exchange will not occur unless mutual benefit takes place for both the buyer and seller. Hence, the interests of both the firm and its consumers are protected. In addition, the definition also includes the protection of the natural environment. A product that claims it is green should state it is "less environmentally harmful" but not "environmentally friendly" as green marketing looks to minimize environmental harm, not eliminate it (Polonsky, 1994). According to Akehurst et al. (2012), the above statement made by Polonsky (1994) adds an important dimension where ecological and social components are included in a more humanistic marketing way to minimize environmental damage.

Peattie and Charter (2003) define green marketing as a holistic management process from a profitable and sustainable perspective by identifying, anticipating and satisfying customers' and societal needs. Marketers should understand the impact of production and consumption on the quality of life and development of a sustainable society rather than concentrate on internal processes of production (Peattie & Charter, 2003). In order to ensure the success of green marketing, Peattie and Charter (2003) suggest that another four "S's" should be added to the traditional four "P's":

satisfactionof customer, **s**afety of products, **s**ocial acceptability and **s**ustainability of the products.

Soonthonsmai (2007) defines green marketing as the activities or actions taken by firms that are concerned with environmental issues and delivering environmentally sound goods or services to achieve consumers' and society's satisfaction [EABR (Business) and ETLC (Teaching) Conference Proceedings]. Indeed, certain authors have proposed that green marketing incorporates a broad range of activities from R&D, design, manufacturing process and packaging to advertising. As a whole, green marketing can be defined as a broad range of activities from R&D to advertising taken or implemented by firms to generate, facilitate and develop green products or services to satisfy consumers' and society's needs and wants with minimal negative impact on the environment.

In recent years, the green marketing concept has been widely accepted and applied in practice (Chen, 2010). There are successful examples of green marketing strategies implemented to improve the environment, such as by Nedbank, GE, Timberland, PepsiCo and EMP (Petrecca & Howard, 2007). Nedbank is the most direct example of green marketing where its Power to People billboard took the Grand Prize in the outdoor advertisement competition at Cannes (Petrecca & Howard, 2007). The sign had 10 solar panels, each generating 135 watts of electricity (Petrecca & Howard, 2007). According to Petrecca and Howard (2007), GE began its Ecomagination Campaign over the last two years. This campaign cost more than US$1.5 billion to develop eco-friendly policies and products from clean coal technology to energy-efficient washing machines and light bulbs by 2010 (Petrecca & Howard, 2007).

Timberland started using 100% recycled material for its shoe boxes, nutritional labels and green index tags (Petrecca & Howard, 2007). The same authors include PepsiCo as one of the green marketing examples, where PepsiCo uses more solar energy, recycled water and purchases renewable energy credits that subsidize the development of clean sources, such as wind solar power. The last company mentioned by Petrecca and Howard (2007) is EMP; its Lithuanian electronics recycler won a Silver Lion for media planning and encourages people to recycle their old electronic equipment.

On the other hand, there are five wrong marketing practices that can lead to green marketing failure: green spinning, green selling, green harvesting, enviropreneur marketing and compliance marketing (Peattie & Crane, 2005). Green spinning is defined as a reactive approach where a firm uses its public relations, such as glossy brochures, lobbying and countless press releases, to persuade or deny the public's criticism of or scepticism to their company's practices (Peattie & Crane, 2005). According to Polonsky (1994), one of the main problems that firms must overcome when applying green marketing is ensuring their activities do not mislead consumers. They must follow the regulations or laws on environmental marketing. In the US, green marketing claims must clearly state environmental benefits, explain environmental characteristics, explain how benefits are achieved, ensure comparative differences are justified, ensure negative factors are taken into consideration and only use meaningful terms and pictures. Peattie and Crane (2005) mention that "green spinning is always going to fail because unless they are involved and consulted, contemporary consumers and pressure groups are unlikely to be fully convinced by the protestations of commercial enterprises".

Green selling is defined as an approach where firms add some green claims to the existing product to boost sales (Peattie & Crane, 2005). Nowadays, manufacturers or producers will claim their product as green product to create consumers' purchase intention. For example, most of the vehicles in the market are now using eco-start button. This will create a misunderstanding by consumers that they are actually purchasing a green product. However, in some case, it is only a push-start button. Under the green selling approach, the existing product will continue to be produced; however, green themes are added to the promotional campaign to attract environmentally concerned consumers. Little research has been done to understand consumers' actual needs and wants (Peattie & Crane, 2005). The same authors mention that meaningless, facile and unsure green claims on current or existing products will cause the product to be a failed attempt in boosting sales and lead to potential consumer backlash. According to Polonsky (1994), another problem is, the firms modify their products according to consumers' concern, and in fact consumers' perception might be incorrect. For example, McDonald have used plastic coated paper to replace its clam shell, however scientific findings reveal that polystyrene is less environmental harmful, in this case, McDonald has chosen the more environmental harmful option.

Green harvesting is another approach that can lead to failure of green marketing. This is because when greening could result in cost saving, firms will become more environmentally enthusiastic (Peattie & Crane, 2005). Cost savings, in terms of energy and material efficiencies, packaging reductions and logistics rationalization give firms strong incentives to develop environmental programs. Although it seems

that products now cost less, green products, as premium items, have always been priced higher than conventional offerings (Peattie & Crane, 2005).

According to Menon and Menon (1997), enviropreneur marketing is defined as an individual, section or company promise that seeks to bring innovative green products to the market without really understanding the consumers' wants. Enviropreneur marketing occurs when new start-up firms or large firms intend to increase the number of green products available on the market as a result of market research (Simula, Lehtimäki,& Salo, 2009). This green marketing approach tends to fail because the efforts are concentrated on producing environmentally products which are perceived as either under-performing or over-priced rather than produce products that consumers want (Peattie & Crane, 2005).

Last but not least, compliance marketing approach is another failed green marketing approach. Compliance marketing refers to taking an opportunity to promote the company's green credentials by using simple compliance with implemented or expected environmental legislation, where the environmental initiatives do not go beyond responding to regulations (Peattie & Crane, 2005). Compliance marketing occurs when a firm is not willing to further develop products than what is required by legislation (Simula et al., 2009). Another problem identified by Polonsky (1994) is firms might face the risk of their environmentally responsible action today being found to be harmful in the future. As an example, the aerosol industry was told that hydrofluorocarbons (HFCs) is another greenhouse gas after the industry had switched from chlorofluorocarbons (CFCs) to HFCs. This problem occurs due to lack of scientific knowledge. Therefore, firms should avoid implementing any

approach or practice mentioned above that will lead to green marketing failure as understanding consumers' wants is more important.

In this study, green marketing is defined as marketing activities which are carry out in environmentally friendly way to minimize the waste and maximize the recycling possibility.According to Ottman (1998), conventional marketing will not work in today's market and it is crucial for businesses to market themselves as well as their products or services as environmentally-friendly to get sales success. This is because nowadays, consumers are aware of the environmental issues and preserving the environment has become their main concern. In order for businesses to reach them, green marketing should be implemented by all businesses. Therefore, it is important to include the green marketing concept in this study because it is important to understand to what extent the emergence of green marketing concept can influence consumers' intention.

2.3 Green Consumerism

Green consumerism refers to "an attempt by individuals to protect themselves and the planet by buying only green products on the shelves" (Ottman, 1992). Green consumerism is becoming very popular. This provides an opportunity for businesses to join as green businesses and build a strong and loyal consumer base. According to Renfro (2010), it depends on the businesses successfully positioning themselves as environmentally-conscious to stay competitive. According to Soonthonsmai (2007), green consumers are consumers who are aware or conscious of and interested in green issues. Ottman (1993) defines green consumers as consumers who actively

look for products and support the green products which can fulfil their needs and have less environmental impact. In addition, Renfro (2010) defines green consumers as consumers who support the businesses that operate in an environmentally-friendly way. Therefore, it can be concluded that green consumers are consumers who are concerned with green issues, actively seek green products and support businesses that operate in eco-friendly ways. According to Mainieri, Barnett, Valdero, Unipan, and Oskamp (1997), gender plays an important role, where women are more environmentally-conscious when purchasing green products.

As the literature of green marketing began to grow, researchers have also put interest towards the characteristics of green consumers (Rex& Baumann, 2006). There was evidence shows that consumers concern of the environment did not reflect their intention to purchase green products (Crane, 2000). National Consumer Council has conducted a survey and result reveals that 70 percent of the population reflected that they don't know the "green" term and only 19 percent were applying the "green" concept into their daily lifestyles and purchasing decisions (Hutchins & Young, 2005). Up to date, researchers are still interested in studying the characteristics of green consumers and trying to further understandings who are the consumers, how many of these consumers are available, what caused them to become green consumers and what influences their behaviour to purchase green products (Rex & Baumann, 2006).

Green consumers can be classified into a few types and there are implications for green marketers to market their products (Malaysia Government, 2009). The first type of green consumers is well-educated and young adult women who have more

money to spend. Green marketers can use the influence of children to encourage their parents to try green products. The children are the future green consumers and are generally knowledgeable about environmental issues provided by the school and community education programs. Moreover, green marketers can reach this group of consumers by providing samples of the products or incentives to try products. For consumers who expect green products to function as effectively as non-green products and will not pay extra or sacrifice quality for greener products, green marketers should effectively communicate assurances of quality, such as quality of performance, look, feel, fit, comfort, durability, and so on.

In addition, for consumers who purchase green products not because of their environmental benefits but because it meets their basic wants and needs, environmental features can become added selling points. Green marketers should link environmental attributes, like energy efficiency or toxic substance reduction with other benefits, such as convenience, quality of life, improvements or lower price. However, for consumers who will more likely to respond to product attributes that personally benefit them, green marketers should emphasize personal benefits by applying terms, such as 'safe', 'non-toxic' and 'cost effective', rather than generalized green messages, like biodegradable or ozone-friendly. Further, certain consumers will only tolerate minimal inconvenience in using green products and do not want to go out of their way to purchase them. For this group of consumers, green marketers should make the product as simple as possible, offer one-stop shopping and eye-appealing displays and reinforce product benefits with evidence of corporate environmental performance and improvement as well as selecting mainstream distributors.

Nowadays, consumers are eager to learn, are analytical and can be cynical about corporate claims on green products, unless they have independent verification. Green marketers should educate consumers about environmental issues and their efforts through a variety of means. For example, provide credible environmental endorsements and use labels, in compliance with government labelling guidelines, to convey precise and detailed information about their products and its packaging. Last but not least, this group of consumers does not expect companies to have perfect green credentials, but will look for a commitment to improve and evidence backed by facts. Green marketers should communicate what steps towards sustainability are being taken, show commitment to improvement, seek feedback and promote efforts to respond to consumers' concerns.

2.4 Green Products

Green products or environmentally friendly products are products that made from recycled materials that will not pollute the earth or reduce the environmental burden, and can be recycled after used (Ottman, 1998; Shamdasami, Ong, & Richmond, 1993). Not all green products are accepted by the consumers although we are now in the era of environmentalism and sustainability (Chen et al., 2012).

Consumers who purchase green products are also concerned how green are the products they purchase. In order to better understand green consumerism, it is important to know green products. According to Tan and Lau (2010), green products can be defined as products that are made by implementing strategies that apply

recycling content, reduced packaging or use of less toxic materials, with the aim of reducing the effect on the natural environment. In other words, green products are products that are produced by using less toxic materials or recycled materials with minimal packaging which can be recycled after use. It also can reduce harm to the natural environment or not pollute the earth. Green products also refers to ecologically or environmentally-friendly product (Shah & Pillai, 2012; Tan & Lau, 2012). However, "green products" and "environmentally-friendly products" are business terms that are commonly used to depict products that protect or improve the natural environment by conserving energy and resources as well as eliminate or reduce the use of toxic agents, pollution and waste during the process of producing the products and after the use of products (Mishra & Sharma, 2010).

The characteristics of green products include products which are organically grown, such as agricultural products and are recyclable, reusable, biodegradable, which conserve energy, contain recycled contents, use non-toxic chemicals and approved chemicals, are harmless to the environment, have eco-friendly packaging and are not tested on animals (Mishra & Sharma, 2010; Shah & Pillai, 2012). With the existence of green products in the market and green consumers in the society, green purchase will occur.

Environmentally friendly car is a vehicle that emits low carbon compounds or less harmful impacts to the environment when it runs (Sharma, 2015). It is also known as green car or eco-friendly car. Green car can be defined as vehicles that use alternative fuels such as biofuels, natural gas, hydrogen and electricity from the grid and/or alternative types of propulsion system include hybrid and electric engines

(Beltramello, 2012). Environmentally friendly vehicles reduces air pollution and greenhouse gas emissions and contribute to energy independence by reducing oil imports as well as contribution to sustainable transport. Green vehicles are considered as the "wave of the future due to they are changing the way consumers contribute to the sustainability of the environment. Green cars include hybrid vehicles, biodiesel vehicles, natural gas vehicles, ethanol vehicles, electric vehicles, hydrogen vehicles, fuel cell vehicles and some other sources (Sharma, 2015).

Green car is one of the important products in the green products industry (Ishioka & Yasuda, 2009; Marcus& Fremeth, 2009; Turrentine & Kurani, 2001). Cars or vehicles are the major threat of air pollution due to the emissions release from the car and cause damaged to natural environment. Green cars are car that produced less pollutant emissions and use sustainable fuel resources which much more environmentally friendly as conventional cars. The most popular and available green cars in Malaysia is hybrid car. The best thing for hybrid cars is that they are similar to conventional car where the buyer does not need to change their behaviour. For example, electrical vehicles and solar cars have a drawback for travel distance as the battery packs have a short lifespan whereas solar cells are fragile and can be easily damaged. Therefore, hybrid cars will become the most popular cars in Malaysia.

The green product refers in this study is hybrid car. Hybrid car is a car that combines internal combustion engines and electric engines to move the vehicles forward. These cars used gasoline to power the internal combustion engines and use electric batteries to power electric motor. Hybrid cars use an internal combustion engines to generate electricity and recharge the battery. The limitation level of fuel in the world

as it is non-renewable energy was the main disadvantages of conventional cars. The benefit of hybrid cars is they use less gasoline and the two engines work jointly to cut fuel consumption therefore produce less pollution. Another advantage of hybrid car is hybrid car comes with regenerative breaking which means when the car brake, the battery is partially recharged. The electric motor is powered by batteries that recharge automatically while driving.

The difference between hybrid car and conventional car is the engines used by the car. Conventional cars use the internal combustion engine. This engine works by literally burning the fuel to create heat and causes expansion of gases and directly causing movement. The engines emit carbon monoxide, nitrogen oxides and particulate pollution which contribute to the air pollution. The reliance of regular engine on fossil fuels will emit greenhouse gases which contributing to global warming. However, hybrid cars combines internal combustion engine with electric engine where the electric battery is recharged completely by waste heat and energy from the conventional engine when the car is decelerating. Hybrid cars greatly increase the fuel efficiency of cars and decrease tailpipe emissions. This is because hybrid cars allow electric engine to replace power when the internal combustion engine is least efficient. In addition, hybrid cars are much quieter than conventional cars. Particulate that emit from motor vehicles is commonly known as soot. This soot will pollute the water on the ground and causes haze. Large concentration of carbon monoxide will cause death while in smaller doses can cause nausea. Therefore, with this type of reductions, hybrid cars are absolutely the car of the future in terms of environmental friendly to save our earth by solve the global warming issue and cleaner air which contains higher levels of breathable oxygen.

Hybrid cars are becoming more popular from time to time in Malaysia. Honda Civic Hybrid is the first hybrid car that introduced in Malaysia in 2007. Latest in the year 2009, Toyota offer it third generation Toyota Prius which is the first hybrid car model introduce by Toyota in Malaysia. In the year of 2013, Malaysian Nissan car distributor Edaran Tan Chong Motor introduced and launched the Malaysia first hybrid MPV, Nissan Serena S-Hybrid ("Malaysia's First Hybrid MPV", 2013). According to Proton executive Chairman Tan Sri Mohd Kamil Jamil, Proton will complete the new technology by the end of 2014 and electric vehicles are expected to launch by the end of 2015 ("Proton Expects To Produce Hybrid", 2013). Honda Malaysia is the first car manufacturer to produce its hybrid car model, Honda Jazz Hybrid in Malaysia located at Alor Gajah, Melaka while UMW Toyota Motor president, Datuk Ismet Suki said they are looking at introducing new model of Toyota hybrid car in Malaysia or assemble hybrid car locally with the right incentives (Choong, 2013). In other words, UMW Toyota Motor is intent to set their hybrid car plant in Malaysia. In views of this fact, hybrid cars in automotive industry are deeming to be the most important green product in Malaysia.

2.5 Green Purchasing

Green purchasing, also known as environmentally preferable purchasing (EPP), is the affirmative selection and acquisition of green products or services, whereby the products or services result in lesser environmental impact over their life cycle of manufacturing, transportation, use and recycling or disposal, while demonstrating social responsibility and ethics (Vazifehdoust et al., 2013; Ho, Dickinson,& Chan,

2010). Green purchasing can be defined as the purchasing efforts which give priority to the products or services which generate least harm or reduce the negative impact on the environment, human health and society (Lee, 2004).

In order to achieve a sustainable future for the global society, stakeholders no matter private or public sector around the world are encouraged to practice green purchasing (International Green Purchasing Network, 2009). Since the 1990s, green purchasing has been perceived as an effective tool to reduce environmental burdens related to human activities (Ho et al., 2010). Green purchasing has been adopted around the world, especially in developed countries, such as Canada, Japan, Korea, Sweden, the United Kingdom and the US; and some developing countries, such as Thailand, the Philippines, India, Brazil and Mexico (Ho et al., 2010). According to Li and Geiser (2005), green purchasing practices have been established and operate under government support.

Japan and Korea is also promoting green purchasing. In Japan, the government plays an important role in promoting green purchasing. The government have enacted The Green Purchasing Law in May 2000 to "establish a society which can enjoy sustainable development with a lower environmental impact by encouraging the State and other entities in the public sector to procure eco-friendly goods and services that will contribute to the reduction of environmental impact and through various other activities" (Ministry of Environmental, 2007). The establishment of this law have encouraged both the suppliers and purchaser to consume and produce eco-friendly product in their daily life.

On the other hand, green purchasing started in Korea in 1990 (Lee, 2004). At the beginning of green purchasing campaign, consumers possess strong and positive responses for product like recycled paper. However, the responses evaded quickly due to the green products have poor quality and uncertain environmental efficiency. Korea Green Purchasing Network (KGPN) has carried out a research to seek opinion about green purchasing from NGOs leaders. Most of the NGOs leaders think that lack of concern and information of mass media and consumers and they might feel that green purchasing as valuable action in future (Lee, 2004). At the same time, KGPN also found that 50 percent of the Korean consumers have intention to purchase green products while 43 percent of them are willing to pay more for green products (Lee, 2004).

Apart from Japan and Korea, Malaysia is also one of the countries encourage for green purchasing. The green purchasing concept is relatively new in Malaysia (Green Purchasing Network Malaysia, 2003). The literature on green purchasing in Malaysia is still lacking. However, Green Purchasing Network Malaysia (2003) has noticed that larger companies, where the headquarters are in developed countries, are promoting green practices. Conversely, local manufacturing industries, especially small and medium-sized industries, are having the attitude of "wait and see". Therefore, most of the environmental problems in Malaysia are associated with the activities of small and medium-sized industries. This is because they have difficulties in accessing new technology, skills, capital investment, profit margins and productivity (Green Purchasing Network Malaysia, 2003). In an effort to promote green purchasing, a non-governmental organization was established in 2003 to encourage buyers, suppliers and manufacturers to adopt sustainable consumption and

production methodologies. Later, the Malaysian government took proactive action to establish a new Ministry - the Ministry of Energy, Green Technology and Water. Before green purchase can take place, green purchase intention must be formed after considering the value of the products.

2.6 Green Purchase Intention

Over the past decade, numerous studies have been conducted to understand consumer behavior towards green products. Variables, such as values, attitude, brand, knowledge and demographics, have been shown to be driving the consumers' purchase intention, specifically for green products (Bui, 2005). Studies regarding green marketing in Asian countries are relatively less as compared to western countries (Lee, 2008). Therefore, it is significant to carry out a study to understand the green purchase behavior, specifically green purchase intention in the Malaysian context.

Intention is defined as the tendency to buy a certain brand (Belch & Belch, 2004); or the possibility of an individual purchasing a brand (Phelps & Hoy, 1996). Ramayah et al. (2010) define intention as a decision to carry out the action in a certain way or to perform a specific behavior (Fishbein & Ajzen, 1975). In attitude-behavior relationship, intention is a function of the level of effort required to carry out a behavior (Bagozzi, Yi, & Baumgartner, 1990). In brief, intention refers to consumers who are ready to accept a product or service; however, the action to purchase the product or service is still under consideration due to influence of other factors. As mentioned earlier, consumers are not always free to act without any limitations.

In contrast to general intention, green purchase intention is a new concept that is used to refer to the intention to purchase a product which is considered as green. Green purchase intention refers to a consumer's readiness to purchase green products or services which are environmentally-friendly or to show concern for the environment (Chan, 2000). According to Nik Ramli (2009), green purchase intention is "conceptualized as the probability and willingness of a person to give preference to products having eco-friendly features over other traditional products in their purchase considerations" (p. 134). Generally, green purchase intention refers to an individual who has plans to purchase a product or service that is environmentally-friendly.

Marketing managers are usually rely on purchase intention data to make strategic decision and marketing plan for new and existing products. Conceptually, managers use purchase intentions to test the market response of a new product. Research could help marketers to determine and decide the appropriate geographic markets and to which customer segments the product should be launched (Silk & Urban, 1978; Urban & Hauser, 1993).

The Theory of Consumption Values has also been applied in a number of purchase intention researches. Williams and Soutar (2009) examined the relationships between value, satisfaction and behavioral intentions in an adventure tourism context. In this study, the results demonstrated that value-for-money, emotional value and novelty value were significant predictor of satisfaction and future intentions. Another research conducted by Wang et al. (2013) to determine the determinants of

behavioral intention of Apps users based on the theory of consumption values, and explore the roles of consumption values in mobile Apps context. The results found that consumption values significantly affect consumer behavioral intention to use mobile Apps. One of the studies carried out by Alesia et al. (2014) to examine the consumption values, environmental concern and attitude on purchase intention in the context of green products. The study tested the relationships between consumption values and environmental attitude, environmental concern and attitude, attitude and purchase intention and the direct relationship between consumption value and purchase intention. In their study, they found intention is formed except the relationship between consumption values and attitude.

Although studies regarding green purchase intention have been carried out in the developed and developing countries, like Malaysia, the results vary. Most of the studies, however, have been conducted in western countries which cannot be generalized to Malaysia due to different settings, such as cultural, social and demography and time. Additionally, it is not suitable to generalize the previous findings especially in Malaysia because Malaysia is a unique country with multi-ethnic consumers, where each ethnic group behaves differently.

Based on Table 2.1, it can be seen that intentions can be accurately predict the action an individual intent to carry out. Previous studies have shown that there is a significantly positive relationship between green purchase intention and behavior (Chan & Lau, 2000; Chan & Yam, 1995;Follows & Jobber, 2000;Maloney & Ward, 1973). Besides, Chan (2001) indicated that green purchase intention does not always lead to green purchase behavior. However, research to date suggests that even when

this is the case, consumer intention has been used as a predictor for actual behavior (Follows & Jobber, 2000) and a good predictor of behavior (Ouellete & Wood, 1998; Sheeran & Orbell, 1999).

Table 2.1
Correlations between Intentions and Volitional Behaviors

Behavior	Intention – Behavior Correlation
Applying for shares in the British Electric Company (East, 1993)	0.82
Using birth control pills (Ajzen & Fishbein,1980)	0.85
Breast vs. bottle feeding (Manstead et.al., 1983)	0.82
Using ecstasy drugs (Orbell et. al., 2001)	0.75
Having an abortion (Smetana & Adler, 1980)	0.96
Complying with speed limits (Elliot et.al., 2003)	0.69
Attending church (King, 1975)	0.90
Donating blood (Giles & Cairns, 1995)	0.75
Using homeopathic medicine (Furnham & Lovett, 2001)	0.75
Voting choice in presidential election (Ajzen & Fishbein, 1980)	0.80

Note: All correlations are significant ($p < 0.05$).
(Adopted from Ajzen, I. (2003).*Attitudes, Personality and Behaviour*, *2nd ed*., pg.100. Berkshire, England: Open University Press, McGraw-Hill)

By examining consumer actual purchase behavior can be more accurate to determine their consumer actual purchase. However, biased might occur if the situational factors is not included when examining consumers' actual purchase towards green product (Hoyer & McInnis, 1997). Hence, actual purchase behavior is not investigated in this study.

There are also researchers who have conducted studies on purchase intention. For instance, Tan (2013) used the TPB model to predict the intention to purchase green and sustainable homes in Malaysia and found that attitude, perceived behavioral control and perceived self-identity have positive causal effects on behavioral

intention to purchase. Muhammad Rizwan et al. (2013) applied four basic concepts of green market (i.e., green perceived value, green perceived risk, green trust and green purchase intention) in their study and found that green perceived risk has negative relationship with green perceived trust and green purchase intention. On the other hand, green perceived value is positively associated with green trust and green purchase intention. Chan (2013) used environmental attitude, social influence, self-efficacy, store image and role of salespersons as independent variables; willingness to pay more as moderator; and purchase intention as dependent variable, and found that only environmental attitude and self-efficacy drive the purchase intention for green personal care products. Additionally, willingness to pay more for green personal care products moderated the relationship between environmental attitude and purchase intention.

Specifically, studies conducted in Malaysia regarding green purchase intention are varying in terms of predictors and product category. Nik Ramli (2009) has been conducted a research study about the awareness of eco-label in Malaysia for energy-saving bulb and traditional tungsten bulb. The result of the study is encouraging where Malaysian consumer would indeed respond positively to the eco-label. At the same time, they found that eco-label will definitely be the crucial factor that will push them to make the right purchase choice when environmental aspects of the product is required.

Different predictor will give a different significant level for different product category. For example, in terms of electrical product, SIRIM is an important recognition that consumers concern about. Therefore, eco-label is a label that green

consumers will refer when they wish to purchase a green product. However, eco-label does not always play an important role. According to Ooi et al. (2012), eco-label shows insignificant relationship to green purchase intention for general green product. Syaidatine Akila and Norazah (2013) also found that environmental labelling was found to be insignificant with green purchase intention. Therefore, predictor for green purchase intention is highly depending on the product category.

On the other hand, Ramayah et al. (2010) have adopted TRA as underpinning theory with the predictors such as self-transcendence value, conservation value, self-enhancement value, environmental consequences and individual consequences to predict the intentions to purchase cloth diapers. Environmental consequences are not significantly predicting consumers' intention to purchase. In terms of environmental predictors and marketing factors, marketing factors are still the most influential factors that influence purchase intention. This is because it involves an exchange in value rather than for the environmental purpose. During the exchange, there must be certain benefits that caused the exchange happened.

In this 21st century, social influence plays an important role around the world. With the technology advancement, one does easily influence by another through social network such as Facebook or Twitter. Social influence, peer influence, social pressure or self-identity is interrelated. For example, an individual will look advice from their social group or peer, when they looking from their advice, social or peer influence involves at the same time social pressure form when individual and peer have different opinion. When an individual care about the opinion from someone, they are actually looking for self-identity, where they care how people identify them.

Therefore, social influence can be influential in certain situation and vice versa. For example, Chan (2013); Punitha and Azmawani (2011); Tan (2013) have found that social influence, self-image and subjective norms does not significantly influence green purchase behavior while Lee et al. (2012) found social influence as one of the significant predictor and Ooi et al. (2012) found peer pressure as one of the factors influence green purchase intention.

In terms of demographics, age group is the only significant variable in explaining environmental factors and thus green purchase behavior (Punitha & Azmawani, 2011). Apart from that, as mentioned earlier, government plays an important role in environmental sustainability. Punitha and Azmawani (2011) found that government role as one of the significant predictor while Ooi et al. (2012) found that government initiative as the most influential on green purchase intention. Table 2.2 shows a summary of previous green purchase intention studies conducted in Malaysia.

Table 2.2
Summary of Green Purchase Intention Research Conducted in Malaysia

Author & Year	Antecedents	Dependent variables	Product	Sample	Findings
Alesia et al., (2014)	Consumption values, environmental concern, attitude	Consumer intention to purchase	Green electronic product – Air Conditioner	300 university lecturers and consumers whom have and have not purchase green product before	There are significant relationships between consumption values and intention, environmental concern and intention, attitude and intention except consumption values and attitude. The study also found that lack of awareness of green product among consumers, unaffordable price for green products and inability to measure the effectiveness of the green product in saving the environment are the issue arise in this study.
Chan (2013)	Environmental attitudes, social influence, self-efficacy, store image, roles of salesperson, willingness to pay more	Purchase intention	Green personal care products	137 white collar employees in Penang	Environmental attitudes and self-efficacy were found to be the drivers of consumers' purchase intention on green personal care products. Willingness to pay for more on green personal care products was moderating the relationship between environmental attitudes and purchase intention.
Hong, Gowrie, Muhammad Madi,& Nasreen (2012)	Attitude (Relative advantage, compatibility, pro-environment), subjective norms, perceived behavioral control	Adoption of hybrid car	Hybrid car	107 Kuala Lumpur car users	Except subjective norms, other variables were positively related to adoption of hybrid cars in Malaysia.
Hong et al. (2013)	Attitude (Relative advantage, compatibility, pro-environment), subjective norms, perceived behavioral control, demographics	Adoption of hybrid car	Hybrid car	107 Kuala Lumpur car users	Attitude and perceived behavioral control were positively related to the adoption of hybrid car except subjective norm was found insignificant or no relationship with hybrid car adoption.

Table 2.2 (Continued)

Author & Year	Antecedents	Dependent variables	Product	Sample	Findings
Jamaliah et al. (2013)	Responsibility feeling, environmental values, environmental knowledge, perception of environmental advertisement, perception of environment-friendly product	Purchase intention	Environment-friendly automobile	250 respondents from Shah Alam	Environmental knowledge shows no significant influence on perception of environment-friendly automobile, yet significant relationship with perception of environmental advertisement. Environmental values and responsibility feeling have significant influence on both perception of environmental advertisement and product. Last, perception of environmental advertisement has no influence on purchase intention, however perception of environment-friendly product influence purchase intention.
Lee et al. (2011)	Social influence, environmental concerns, pro-environmental behavior, price-sensitivity, personal values	Green purchase intention	Green product in general	103 respondents from Melaka and Kuala Lumpur	Only three out of five predictors are significant against green purchase intention namely social influences, pro-environmental behavior and price sensitivity. Pro-environmental behavior was the most significant determinant of consumers green purchase intentions.
Nik Ramli (2009)	Attitude toward environmental protection, environmental knowledge, eco-label awareness	Green purchase intention	Energy-saving bulb and traditional tungsten bulb	526 employees of environmental management representative (EMR)	Malaysian consumer would indeed reach positively to the eco-label and eco-label will definitely be the crucial factor that will push them to make the right purchase choice when environmental aspects of the product is required.

Table 2.2 (Continued)

Author & Year	Antecedents	Dependent variables	Product	Sample	Findings
Norazah (2013)	Consumers' environmental concerns, awareness of green product, awareness of price, awareness of brand image	Consumers' purchasing decision	Green product in general	200 public university students in Federal Territory of Labuan	Result reveals that a person having some concern for the environment, its brand image will have a stronger preference to buy a green product.
Ooi et al (2012)	Environmental knowledge, environmental attitude, government initiative, peer pressure, eco-label	Green purchase intention	Green product in general	230 Malaysian members of an Activist Group	Government initiative has the most significant influence on green purchase intention among Malaysian consumers. Eco-label shows insignificant relationship to green purchase intention.
Punitha & Azmawani (2011)	Demographics, social influence, environmental attitude, environmental concern, perceived seriousness of environmental problem, perceived effectiveness of environmental behavior, perceived environmental responsibility, concern for self-image in environmental protection, government's role	Green purchase behavior	Green product in general	204 respondents	Among the demographic variables, only age group is significant in explaining environmental factors. The best predictor in this study is environmental attitude followed by perceived environmental responsibility, environmental concern, perceived seriousness of environmental problems, perceived effectiveness of environmental behavior and government's role.

Table 2.2 (Continued)

Author & Year	Antecedents	Dependent variables	Product	Sample	Findings
Ramayah et al. (2010)	Self-transcendence value, conservation value, self-enhancement value, environmental consequences, individual consequences	Intentions to purchase	Cloth diapers	257 parents	Individual consequences are negatively related to intention to purchase green product while environmental consequences are not significant in predictor of intention to purchase green product. Conservation value was found to be positively related to intention but less intensely with individual consequences while both self-enhancement value and self-transcendence value were positively related to individual consequences. Individual consequences and self-enhancement value were negatively related to purchase intention.
Syaidatine Akila& Norazah (2013)	Health consciousness, environmental attitude, environmental labeling, environmental knowledge	Green purchase intention	Green product in general	430 respondents	Environmental labeling was found to be insignificant; however, environmental knowledge was the most important predictor towards consumers' purchase intention followed by health consciousness and environmental attitude.
Tan (2013)	Attitudes towards green and sustainable homes, social pressure from family and friends, perceived behavior control, perceived self-identity	Purchase intention	Green housing	252 Nusajaya potential homebuyers	Attitudes towards green housing, perceived behavioral control and perceived self-identity are positively influence on behavioral intentions to purchase green housing except social referents' opinion are not significantly related.

From the above mentioned studies, it is obvious that there are many factors that may influence green purchase intention. As a result, many studies have been conducted by different authors in different countries under different cultural settings in different areas over the years. The aim is to recognize, determine and examine factors that influence green purchase intention. Among the predictor variables that have been examined and reported to have correlations with green purchase intention are: environmental attitude or attitude towards green purchase or green products (Kim, 2011; Lee, 2008; Mostafa, 2007; Punitha & Azmawani, 2011); environmental or ecological knowledge (Mostafa, 2007); environmental concern or environmental consciousness (Arttachariya, 2012; Kim & Choi, 2005; Lee, 2008, 2009; Lee, Kim, Kim, & Choi, 2014; Mostafa, 2007; Punitha & Azmawani, 2011); demography (Lee, 2009; Mostafa, 2007; Tan & Lau, 2010); conditional value (Lin et al., 2010; Lin & Huang, 2012); epistemic value (Lin et al., 2010; Lin & Huang, 2012); emotional value (Lin et al., 2010; Lin & Huang, 2012); social influence or peer influence or reference group influence (Arttachariya. 2012; Lee, 2008, 2009); functional value - price (Lin et al., 2010; Lin & Huang, 2012); and functional value - quality (Lin et al., 2010; Lin & Huang, 2012).

The above mentioned factors can be classified as environmental and marketing factors. These factors are commonly adopted or adapted in most of the studies related to green purchase intention. Environmental factors include environmental attitude, environmental concern, environmental knowledge, environmental labelling, organization's green image and eco-label. Marketing factors, such as cost or price, quality, values, attitude, experiences and government initiative have also been included in previous green purchase intention studies. The relationships between

environmental factors and marketing factors with green purchase intention have been established in previous studies.

Kaufmann, Mohammad Fateh, and Orphanidou (2012) have mentioned that environmental concern also refers to a strong attitude towards environmental preservation or environmental protection (Crosby, Gill, & Taylor, 1981). Environmental concern has been found to be a major determinant in organic and green food studies (e.g., Grunert, 1993). However, if individuals express their consciousness or concern towards the environment, it does not mean that they will purchase products that have less impact on the environment. Ohtomo and Hirose (2007) found in their study that people may be concerned about the environment but this might not lead them to behave in a greener way or perform green purchase behavior.

Many studies have included value factors based on Schwartz's universal value theory and Hofstede's cultural dimension theory. However, studies on consumption values have not tested green purchase intention in the Malaysian context. Studies that have used consumption values to predict green purchase intention have been conducted outside of Malaysia as mentioned earlier in the problem statement. However, not all of the mentioned variables were included as a single predictor, as they were categorized according to consumption values. For example, price, quality and maintenance cost were included as part of functional value; social influence, self-identity and social value as part of symbolic value; product knowledge and environmental knowledge as part of novelty value; and government initiative or government role as part of conditional value. In order to form consumers' intention

to purchase, a company and its product must be able to create value worthwhile for the consumers' consideration. Therefore, examining consumption values is sufficient to determine the green purchase intention as it includes all the single factors mentioned above. Also, by including the variables mentioned, it can better provide a full picture and understanding of green purchase intention.

Generally, empirical literature have proved that the strength of purchase intention as a proxy measure of future behavior (Ajzen & Fishbein, 1980; Morrison, 1979). The reasons of using purchase intentions as single dependent variable are purchase intention tends to be the best single predictor of actual behavior (Peter & Olson, 2002); predicting purchase intention is much easier than predicting actual purchase behavior (Ajzen & Fishbein, 1980; Hoyer & MacInnis, 1997; Sheppard, Hartwick, & Warshaw, 1988); and study examining the effect of consumers' characteristics on purchase intention is less likely to face biased as compare to examining the consumers' characteristics on actual behavior due to the situational factors that do not include or examine by the researchers (Blattberg & Neslin, 1990; Hoyer & MacInnis, 1997; Lichtenstein, Ridgway, & Netemeyer, 1993).

By understanding consumers purchase behavior, marketers and producers is provided with information such as consumers buying criteria which affect their decision making or purchase intention. Purchase intention is one of the elements in consumer decision making process and it is regarded as complicated process and varied with the types of product or service (Foley, 2003). Purchasing a vehicle can be an important decision for most people. This is because consumers seldom purchase it and need to spend more time to search for information, compare between producers

and make the decision. Therefore, hybrid car is considered as high involvement product.

Examining green purchase intention is crucial to predict behavior and also as a proxy for actual behavior. However, three factors must be considered in the process of purchase intention. The first factor is consumers' attitude; second is brand preference; and third is consumption values. For example, consumers may form a purchase intention based on their favorable beliefs towards a green product, the value provided by purchasing a product and the brand that they prefer. The three factors mentioned above are included in this study and are discussed in detail in the following sections.

2.7 The Influence of Consumers' Attitude on Intention to Purchase a Hybrid Car

According to Allport (1935), attitude can be defined as "a mental and neural state of readiness, which exerts a directing influence upon the individual's response to all objects and situations with which it is related". It is a psychological tendency expressed by a person through evaluation statements, either favorable or unfavorable, to the given objects, people or events (Ajzen, 1991; Ajzen & Fishbein, 1980; Ajzen & Madden, 1986; Eagly & Chaiken, 1993; Fishbein & Ajzen, 1975; Robbins, 1993). It can also be defined as a set of beliefs about a certain object that predisposes people to carry out the behavior or action in a particular way towards the object (Schwartz, 1992; Weigel, 1983). According to Newhouse (1990); and Solomon (2007), attitude is a lasting positive or negative feeling about people, objects, advertisements or other issues. Simply, attitude can be defined as an overall evaluation of 'like' or 'dislike'

by consumers (Olson, Vernon, Harris, & Jang, 2001). In brief, attitude refers to how a person feels and behaves towards particular people, objects or issues and leads a person to take action in a particular way according to that feeling. The feelings can be positive or negative, favorable or unfavorable as well as like or dislike.

The fundamental assumption underlying the attitude concept is the notion that attitude guides, influences, directs, shapes or predicts actual purchase behavior (Kraus, 1995). In the 1960s, the assumption was seriously questioned and many concluded that attitude has become obsolete as a scientific construct. Later, in the first few decades of the 20th century, attitude research emerged as a significant part of the social sciences (Kraus, 1995). Although researchers have become increasingly optimistic about the relationship between attitude and behavior, there is a caution that attitude would not always be highly predictive of behavior (Kraus, 1995). Conceptually, attitude provides a framework for research on phenomena; while operationally, attitude's measurements have been more quantitative and reliable and also easier to construct and administer (Kraus, 1995).

Conceptually, attitude can be divided into specific attitude and general attitude (Sun & Willson, 2008). Environmental attitude is defined by Schultz and Zelezny (1999) as the degree to which an individual perceives himself/herself as a part of the natural environment. Schultz, Shriver, Tabanico, and Khazian (2004) define environmental attitude as "a collection of beliefs, affects and behavioral intention a particular person holds related to environmental activities or issues". Milfont (2007) defines environmental attitude as "the psychological tendency that is expressed by evaluating perceptions of or beliefs regarding the natural environment, including factors

affecting its quality, with some degree of favor or disfavor". Lee (2008) defines environmental attitude as being related to value of environmental protection. Nik Ramli (2009) clearly defines environmental attitude as an individual holding a particular attitude, whether favorable or unfavorable to the environment.

Environmental attitude is generally used to predict green purchase intention as compared to specific attitude towards green purchase intention. As evidence to support the above statement, studies that have used environmental attitude include Arttachariya (2012); Chan (2013); Hessami and Yousefi (2013); Kim (2011); Lee (2009); Ooi et al. (2011); Punitha and Azmawani (2011); and Syaidatina Akila and Norazah (2013). However, studies that have used attitude towards green products or green purchases to predict green purchase intention are limited to Mostafa (2007); Tan (2013); Kim and Chung (2011); and Hessami and Yousefi (2013). In addition to the studies mentioned, most of the studies conducted in Malaysia have used environmental attitude (Chan, 2013; Ooi et al., 2011; Punitha & Azmawani, 2011; Syaidatina Akila & Norazah, 2013) rather than attitude towards green products (Tan, 2013).

According to the social psychology literature, behavioral research has identified attitude as an important predictor to predict behavior, behavioral intention and the explanatory factors of variants in individual behavior (Kotchen & Reiling, 2000). Additionally, attitude is essential in consumer behavior research due to its strong influence on behavior (Ajzen & Fishbein, 1980; Arcury, 1990; Bejou & Thorne, 1991; Follows & Jobber, 2000; Samuelson & Biek, 1991; Vazifehdoust et al., 2013). In the study conducted by Mostafa (2007), he found that consumers' attitude towards

green purchase directly affects their actual green purchase behavior. Additionally, Punitha and Azmawani (2011) found that environmental attitude is the top predictor for green purchase behavior.

In a meta-analysis (Tan, 2011), a lower attitude-behavior correlation was found when attitude was operationalized as a general environmental attitude rather than a specific attitude towards environmental behavior. Additionally, consumers purchase a product because of environmental claims where the purchase is safe for the environment or product switching for environmental reasons was only significant with specific attitude instead of general environmental concern (Tan, 2011). Ajzen and Fishbein (1977); Hines, Hungerford, and Tomera (1987); Eagly and Chaiken (1993) also found that a specific attitude is a strong predictor of a single behavior to a particular object. Fishbein and Ajzen (1975) suggest that in predicting specific behavior, a specific attitude is better than general attitude. To support the above statement, Lee (2008) found that environmental attitude is the second last predictor of green purchasing behavior. There are also studies which show that environmental attitude does not always influence consumers' purchase behavior in the Malaysian context. For instance, Nabsiah and Ismail (2014) found that young Malaysian consumers refuse to change their attitude to help reduce environmental pollution. Nabsiah et al. (2011) found that Malaysian green volunteers' environmental attitude does not influence their intention to purchase green products. Therefore, specific attitude is chosen because of strong correlation between attitude-behavior and it is a stronger predictor than environmental attitude or general attitude.

There are limited studies regarding specific attitude towards green purchase behavior. Hence, studies are needed on different product categories, especially high involvement products like the hybrid car. All the studies mentioned above have been tested on general green products rather than specific products. The studies conducted on the hybrid car in Malaysia (Hong et al., 2012, 2013; Jamaliah et al., 2013; Mohamad Idham et al., 2014; Wong et al., 2013); and a cross-cultural study between Korea and the US (Oliver & Lee, 2010) do not include attitude, whether general or specific. Attitude is an important predictor of intention which can lead to actual behavior. It allows marketers or companies to know consumers' feeling towards the product or service and make improvements accordingly to satisfy consumers, especially in Malaysia because Malaysia is a multi-cultural country comprising various ethnic groups. Hong et al. (2013) have recommended in their study that consumers' attitude towards hybrid vehicles should be considered in future research in Malaysia.

Therefore, a specific attitude, namely consumers' attitude toward the hybrid car is included in this study to predict hybrid car purchase intention. Apart from this, brand preference also seems to be a significant moderator that could influence hybrid car purchase intention as discussed in the next section.

2.8 Moderating Role of Brand Preference

Brand is a name or symbol or logo for a product (Doyle, 2002) which consumers use to differentiate a product within the same product category. For example, there are varieties of hybrid car models available in the market and consumers' purchase

decision is based on the brand they prefer. Normally, brand plays an important role in high involvement purchases, such as the hybrid car (Devendra, 2013). According to Hickie,Konar, and Tomlinson(2005), high involvement products are symbols of status, luxury and personal identity. Marketers must provide a good deal of information on the positive consequences of a purchase (Devendra, 2013). Previous favourable experiences form brand preference. Consumers will first consider the brand they prefer before the other brands as preferences moderate the consumers' choice by enhancing their intentions towards the favoured brand.

Brand is the characteristic of a product that differentiates one product from the others and is often important to consumers purchasing the product. In the past decade, brand preference has received enormous attention in marketing and consumers' behavior research (Aayed & Rohaizat, 2011). In today's highly competitive businesses, brand preference is indispensable; therefore, practitioners and researchers have emphasized this concept. Aaker (1991); and Keller (1993) define brand preference as a set of brand assets and liabilities linked to a brand and a consumer's subjective and intangible assessment of the brand, above and beyond its objectively perceived value. In short, brand preference can be an asset and also a liability for a company, which depends on consumers' favorable or unfavorable perception. Ben-Akiva et al. (1999) define brand preference as a comparative judgment between a set of brands, which leads to a more favorable attitude toward one or more of the brands over others. Hellier et al. (2003, p. 1765) define brand preference as:

> *"the extent to which the customer favors the designated product provided by a certain company, in comparison to the designated service provided by other companies in his or her consideration set".*

Consumers usually do not choose brands randomly, but they do prefer certain brands over others (Aaker, 1996; Bushman, 1993). Most of the companies or marketers would like to gain brand preference through habit or favorable past experiences (McCarthy & Perraulty, 1994). Many researchers have realized the importance of brand preference as one of the key determinants of brand choice and buying (Aayed & Rohaizat, 2011). The purpose consumers form brand preferences is to reduce the complexity of the purchase decision process (Gensch, 1987).

Brand preference is important for businesses which can in turn lead to brand loyalty (Rundle-Thiele & Mackay, 2001). However, consumers' brand preference can change due to various attractive brands available in the market and customers tend to seek better brands of products or services. Generally, brand preference depends heavily on previous experiences. In other words, brand preference is formed from positive experiences. Most previous studies have considered several moderator variables that may affect consumers' purchasing behavior or purchasing decision, such as perceived effectiveness, demography, product involvement and knowledge. However, researchers have not yet examined the moderating effect of brand preference on green purchase intention. Therefore, understanding brand preference is important, especially since there are a variety of choices available for consumers when the product is considered new in the country and is not available for certain brands. In order to provide a better understanding of hybrid car purchase intention, examining consumers' attitude and brand preference is not enough to provide a big picture on green purchase intention in a consumer's purchase decision process. Therefore, understanding consumption values is also important. The next section discusses in-depth the consumption values.

2.9 The Influence of Consumption Values on Intention to Purchase a Hybrid Car and Consumers' attitude toward the Hybrid Car

Value is defined as a consumer's overall assessment of a product's benefit received from and given by the product (Zeithaml, 1988). Values might influence an individual's attitude and guide the person to look for objects that will satisfy his/her value (Grunert & Juhl, 1995; Poortinga, Steg,& Vlek, 2004). In the 1990s, one of the most successful strategies was the company's ability to provide superior value to its customers (Wang et al., 2013). The same authors also mentioned value is considered as an important make-up of relationship marketing. Customer value is the fundamental basis for all marketing activity as mentioned by Holbrook (1994), where "Marketing involves exchanges; exchanges depend on customers' value; and customers' value is the fundamental basis for all marketing activity" (Wang et al., 2013). Nowadays, consumers' purchases are mostly due to the perceived corporate, social and environmental value rather than the superior economic or utility value that they get from the firm purveying a product, service or brand (Tarn, 1999). Hence, if consumers are "value-driven" (Sweeney & Soutar, 2001), then it is important for marketers to understand customer-perceived value and focus their attention to achieve market advantage (Woodruff, 1997).

Perceived value can be defined as an overall evaluation of benefit a consumer receives from a product or service based on the consumer's review (Bolton & Drew, 1991; Patterson & Spreng, 1997). Consumers generate behavior along with their beliefs and worldwide assumptions (Ramayah et al., 2010). Green perceived value

can be defined as “a consumer’s overall appraisal of the net benefit of a product or service between what is received and what is given based on the consumer’s environmental desires, upholding judgments and needs to make a product environmentally-friendly” (Patterson & Spreng, 1997). According to Sweeney, Soutar, and Johnson (1999), previous research has explained that perceived value has a positive effect on marketing performance. This is because perceived value is more important in today’s society as companies can enhance consumer purchase intentions through product value (Steenkamp & Geyskens, 2006). Companies can deliver value to the consumer by offering benefits and differentiating their products from competitors (Aaker, 1996; Zeithaml, 1988). In other words, it can be said that consumers will first consider the product’s value before performing any behavior. Product value can be seen in product characteristics, product benefit and how prominent a product is. According to Chen and Chang (2012), green perceived value positively affects green purchase intentions.

According to Homer and Kahle (1988), values are similar to attitudes as both involve adaptation, accommodation, organization and integration of environmental information in order to promote interchanges with the environment favorable to the preservation of optimal functioning. Although value is similar to attitudes, they can be different in at least four ways (Vaske & Donnelly, 1999). Firstly, value represents single and stable beliefs that an individual uses as a standard to evaluate attitude and behavior (Rokeach, 1973). Secondly, value transcends objects, situations and issues (Rokeach, 1973). Thirdly, the central component of a person’s belief system is value. Fourthly, value tends to be limited to number, while attitude can be numerous (Vaske & Donnelly, 1999). Value is the most abstract of the social cognition and because of

the abstraction attitudes and behaviors, are manufactured. Hence, values guide behaviors by influence from abstract values to attitudes to specific behavior.

There are two approaches to customer-perceived value adapted by different studies, including uni-dimensional and multi-dimensional approaches. According to Sheth et al. (1991), perceived value is not only the functional aspects of quality and price, but a subjective construct that varies between products. In other words, customer-perceived value should include other components instead of just functional value. As Sheth et al. (1991) mention, consumers' purchase choice entails a form of value which can be categorized as functional, social, emotional, epistemic and conditional. It has been empirically proven that in marketing disciplines, perceived value is multi-dimensional and various disciplines have contributed to this theory (i.e., theory of consumption values) (Wang et al., 2013; Sheth et al., 1991).

The five consumption values identified by Sheth et al. (1991) are inter-related to each other. First, consumers will look at the product attributes which include the product outlook, price and quality which is the functional value. After considering the product's physical attributes, consumers will look for advice from reference groups (i.e., friends and family, colleagues and/or relatives) and influence will take place in this stage and thus symbolic value is formed.

After considering the advice from reference groups, consumers will seek more information about the product. With technological advancement, consumers can access a variety of information through the internet. This is where novelty value is

formed. After seeking information, whether the product can arouse emotional feeling that makes consumers want to purchase the product is referred to as emotional value.

Last but not least, when the feeling is aroused, consumers will seek the benefits that could convince them to purchase the product with the on-going incentives, promotion or discounts that could cause consumers to act. When positive consumption values are created in consumers' mind, consumers will have a positive attitude towards the product, for example a hybrid car, and the possibility that consumers purchase it is higher. Therefore, this study utilizes the multi-dimensional approach of the theory of consumption values to investigate the green purchase intention of the hybrid car. Each consumption value is discussed in detail below.

2.9.1 Functional Value

Sheth et al. (1991, p. 160) define functional value as:

> *"The perceived utility acquired from an alternative's capacity for functional, utilitarian or physical performance. An alternative acquires functional value through the possession of salient functional, utilitarian or physical attributes. Functional value is measured on a profile of choice attributes".*

Sheth et al. (1991) assume functional value to be the primary driver of consumer's choice. This assumption underlies economic utility theory and expressed in terms of "rational economic man" or in other words, economic rationalism (Sheth et al., 1991; Bødker et al., 2009). Functional value is usually conceptualized as the value received in terms of price paid or money (Bolton & Drew, 1991; Dodds, Monroe & Grewal,

1991; Holbrook, 1994; Woodruff, 1997; Zeithaml, 1988). Consumers' decisions to buy or use a product or service are usually influenced by the product's or service's attributes, including quality, reliability, durability as well as price (Williams & Soutar, 2009); and the fulfilment of consumers' utilitarian needs (Bødker et al., 2009). According to Wang et al. (2013), price can be the most salient functional value. In consumers' product selection process, consumers may give up the product if the price is too high (Lin et al., 2010).

According to D'Souza, Taghiam, Lamb, and Perentiatko (2007), research trends show a lack of willingness to pay a premium prices for green products. However, as mentioned in the introduction, nearly 80 percent of Malaysians are willing to pay more to support green products (Lung, 2010). Basically, price and quality refer to the functional value in most of the studies (Lin et al., 2010; Lin & Huang, 2012). In Vazifehdoust et al.'s (2013) study, quality is used to directly predict attitude towards green products, and indirectly to green purchase behavior. In reality, price and quality of the product are the most significant elements that consumers consider when purchasing a product (Hessami & Yosuefi, 2013).

Product attributes play an important role in consumers' purchasing decision process (Gan, Han, Ozanne,& Tzu, 2008). Generally, quality is one of the product attributes. Quality refers to the overall performance or judgment of a product and is a key dimension in product choice (Doorn & Verhoef, 2011). This is because consumers pay for the quality of the product they purchase. Quality is an intangible product attribute; therefore, consumers only can judge the quality after experiencing the product. Every consumer might set a different level of quality they expect from the

product. For instance, some consumers may look for safety as one of the reasons to purchase a vehicle. Safety is an intangible quality that only can be determined by driving the vehicle. Nonetheless, a company should also satisfy customers' environmental requirements instead of focusing only on product features, design and package to increase product differentiation (Chang & Fong, 2010). By satisfying customers' environmental requirements, a company can create customer loyalty and thus gain competitive advantage (Chang & Fong, 2010).

Practically, different product will have different product attributes. Apart from price and quality, different products have different functional value. Price and quality are the most basic product attributes and can be the most salient product attributes. However, in certain product, other product attributes can be the concern of consumers instead of price and quality. From the automotive perspective, fuel consumption, price of vehicle, maintenance records and vehicle's quality in terms of safety records may all influence functional value perceptions.

In Lin et al. (2010) and Lin and Huang's (2012) studies, price and quality are used to measure functional value. However, in both mentioned studies, price and quality do not appear to significantly impact consumers' choice behavior. In contrast, Alesia et al. (2014); and Wang et al. (2013) found that functional value significantly affects consumers' intention. Therefore, different contexts and different products reveal different results, and thus, the findings from the above mentioned studies cannot be conceptualized. For example, Sheth et al. (1991) say that the decision to purchase a particular vehicle might be based on fuel economy and maintenance records. Therefore, price and quality are not the only dimensions used to predict functional

value; however, fuel economy and maintenance records could play a more significant role.

2.9.2 Symbolic Value

Environmental behavior is a special kind of altruistic act. It therefore carries symbolic functions, such as morality, unselfishness, other-or-nature-orientation and eco-aspirations and used to form self-identity or self-presentation to others (Hopper & Nielsen, 1991). Symbolic value is described as "the meaning associated with the product and the image of the product" (Sheth et al., 1991). The assumption of perceived benefit of the product is the symbolic value perceived by consumers (Candan &Yıldırım, 2013). This assumption has been widely accepted for a long time. Due to symbolic value being aroused when individuals or groups share the meaning and have the same meaning for a product, the process of understanding and evaluating symbolic value is much more difficult than functional value and it can be claimed that the concept of symbolic value arises as an outcome of the socializing process (Candan &Yıldırım, 2013).

According to Tan and Chua (2003), symbolic values are important in terms of how consumers express themselves in the society because consumers perform a purchase behavior according to their role in the society. In other words, consumers have different roles in the society according to their class. A class system is a hierarchical system that defines the position of a person in the society (Sheth et al., 1991). Hormuth (1999) argues that acts have symbolic functions and meanings for a person

- certain acts may be carried out to obtain certain status, impression and identity for oneself.

As a part of symbolic value, social value is defined as:

> *"The perceived utility acquired from an alternative's association with one or more specific social groups. An alternative acquires social value through association with positively or negatively stereotyped demographic, socioeconomic and cultural-ethnic groups"* (Sheth et al., 1991, p. 161).

In other words, social value is the perceived benefit acquired from social groups, such as reference groups, expert opinion, peer groups as well as social networks. Social value is derived as the symbol of an artefact (Bødker et al., 2009). Social value includes several concepts, such as prestige, status and a common sense of belonging, and not merely economic measure (Hessami & Yousefi, 2013). Consumers are normally influenced by other social groups' consumption patterns. During interaction with others and information sharing, individuals assign a social value to products (Deffuant, Huet,& Amblard, 2005). For example, a particular make of automobile may be chosen for social image rather than its functional performance.

According to Sheth et al. (1991), choices involving highly visible products, such as clothing, jewellery and goods or services shared with others as a gift, are often driven by social value. Consumers will look for more information when the product has a high social value, especially for high involvement products, such as the hybrid car. As mentioned earlier, high involvement products are products which show status, luxury and identity. How others perceive consumers using the products has become an important consideration in purchasing. The automobile is categorized as a high

involvement product because automobile choices are relevant to consumer valuesand is consumed in a riskier social setting (Corfman, 1991); and related to social identity and status (Janssen & Jager, 2002). According to Sheth et al. (1991); and Sweeney and Soutar (2001), the motives for buying and using products depend on how a consumer wants to be seen by others and oneself. The use and purchase of a product show how the individual expresses self-image to others. However, social value does not have a significant relationship with consumer choice behavior in Lin et al. (2010) and Lin and Huang's (2012) studies.

Apart from social value, self-identity and social influence are included in this study as part of symbolic value. Actions reflect the image of a person and certain actions was carried out to create the status, image or impression (Hormuth, 1999). Hence, actions actually create the symbolic functions of a person. According to Hopper and Nielsen (1991), since environmental behavior is an altruistic action, it represents a person's identity and carries symbolic functions. Self-identity has been proven to be a useful dimension in studying the motivation to behaving environmentally. As supporting evidence to the above statement, identity formation is found to be the most important factor in a study on adolescents by Sharp, Coatsworth, Darling, Cumsille, and Ranieri (2007). Lee (2008) found that self-image is the third predictor that predicts green purchasing behavior among young Hong Kong consumers. In other words, it means that adolescents in Hong Kong are concerned with keeping a good image before their reference group by purchasing green products.

Self-image in environmental protection also influences green purchasing intention among adolescents. Additionally, social networks are now playing an important role

in influencing individuals having the same interests (Chan, 2013). Online discussion has a more powerful influence on individuals compared to online information generated by marketers (Bickart & Schindler, 2001). However, Punitha and Azmawani (2011) found that self-image does not influence green purchase behavior, contradictory to studies by Lee (2008). As consumers assume green products are expensive products, it therefore carries a certain level of image when using green products.

A person's emotions, opinions or behaviors that are affected by others are called social influence (Chan, 2013). Specifically, Rashotte (2007) defines social influence as the change in the individual's thinking, feelings, attitude or behavior due to the influence of other individuals or groups. In other words, a person's action is influenced by the other individuals or groups, such as friends, family, neighbors or relatives. Symbolic value, in terms of social value, specifically social influence, is a more powerful predictor than subjective norm. As evidence, social influence was found as the top predictor in Lee's (2008) study and had the greatest impact on purchasing intention of environmentally-friendly products. Inversely, social value, in terms of subjective norm, was found to be insignificant in Lin and Huang (2013) and Lin et al.'s (2010) studies.

Peer pressure is another form of social influence. According to Cohan (2009), peer pressure refers to psychological pressure where an individual compares his/her actions to others. In short, peer pressure refers to being convinced to do something individuals might refuse to do, but it is necessary in order to maintain a good relationship with peers, such as friends (Chan, 2013). According to Kelman (1958),

an individual accepts the influence because it is congruent with the value of the individual. Information supply is not enough to change a person's mind-set and behavior; changing the surroundings could be the best way (Daido, 2004).

Reference group influence is another social influence. There are many studies on the impact of reference group on general consumers' behavior. Reference group means that individuals will refer to the group for consumption decisions and the reference is perceived as a credible source (Arttachariya, 2012); it can be individual or group reference. Informal reference groups, such as friends, neighbors, relatives or anyone from a social group, can have a strong influence on a person's behavior.

As mentioned earlier, social value, self-identity and social influence are interrelated to each other. In today's world, consumer can easily search for a group of individual who are actively discuss or share the information or opinion regarding a specific product. For example, consumers nowadays actively creating group in Facebook (a social network) to gather individual having the same interest and share information such as Doctoral Support Group which is created to support doctorate or postgraduate students around the world. Therefore, this study includes social value, self-identity and social influence as additional dimensions for symbolic value to test the relationship with green purchase intention. Previous studies have only relied on either social value or self-identity or social influence to predict green purchase intention. However, as mentioned earlier, most of the previous studies have not shown a significant effect on green purchase intention. Hence, multi-dimensions of symbolic value could create a better understanding of green purchase intention.

2.9.3 Emotional Value

Other than functional value and symbolic value, emotional value is one of the dimensions of consumption values. According to Sheth et al. (1991, p. 161), emotional value is defined as:

> *"The perceived utility acquired from an alternative's capacity to arouse feelings or affective states. An alternative acquires emotional value when associated with specific feelings or when precipitating those feelings."*

Emotional value simply means the feeling aroused by products or services. In other words, emotional value refers to the benefits obtained from the use of a product with regards to feelings and emotions and the value is the consumers' reaction to the product (Xiao & Kim, 2009). In addition, emotion refers to the feelings elicited during the product's usage or consumption experience. The feelings can be either positive, such as loyalty, nostalgia and excitement; or negative, such as anger, fear and guilt (Sheth et al., 1991). Additionally, feelings can also be described as distinctive categories of emotional experience and expression by structural dimensions underlying emotional categories. According to Hawkins, Catalano, and Miller (1992), in terms of consumers' behavior, emotions can be described as feelings or emotional reactions to the conditions, products, advertisements, promotions or brands of a particular product or service.

Daily life is associated with emotional responses. Besides news that arouses responses, goods and services are also associated with emotional responses (Sheth et al., 1991). Examples given by Sheth et al. (1991) include the fear aroused while

watching a horror movie, the comfort feeling with the foods associated with childhood experiences and a "love affair" feeling associated between owners or drivers with their cars. Emotional value is one of the consumption values that influences a consumer's decision because of a product's potential to stimulate emotions that accompany the use of a product (Bødker et al., 2009). As shown by Lin et al. (2010) and Lin and Huang's (2012) studies, emotional value positively influences consumers' choice behavior. Thus, emotional value is likely to be a key factor in consumers' intention to purchase.

2.9.4 Novelty Value

Novelty value and epistemic value are used interchangeably in this study. Epistemic value is defined as:

> *"The perceived utility acquired from an alternative's capacity to arouse curiosity, provide novelty and/or satisfy a desire for knowledge. An alternative acquires epistemic value by questionnaire items by referring to curiosity, novelty and knowledge"* (Sheth et al., 1991, p. 162).

In short, epistemic value happens when a product or service arouses curiosity, provides originality or novelty and/or knowledge gaining. Epistemic value occurs when a person consumes or experiences new products or services; when a person is bored with current products; when a person is seeking something different; or when a person wants to fulfil his/her curiosity with something new (Bødker et al., 2009). According to Lin et al. (2010); and Lin and Huang (2012), epistemic value is the most significant predictor of consumer choice behavior. This means those consumers

with curiosity, desire for knowledge or who seek to gain new knowledge would prefer green products more than the others.

Epistemic value is also perceived as the need for curiosity and innovation (Sheth et al., 1991). Curiosity and innovativeness are explained by motivation theories as incentives existing in human nature (Candan & Yıldırım, 2013). Hence, marketing experts accept that the incentives of "innovation and variety searching" affect consumers' purchase preferences (Candan & Yıldırım, 2013). The result in the study of Sheth et al. (1991), shows that exploratory purchasing behaviors are associated with consumers' behavior of changing brands, variety searching and product trying trends. Innovativeness has become the most prominent incentive factor in consumers' behavior (Candan & Yıldırım, 2013). Despite knowledge playing an important role in novelty value, the importance of innovativeness should not be under-estimated. According to Schiffman and Kanuk (1997), a variety of searching behaviors emerges as the tendency for innovative purchasing especially technological products. In certain contexts, epistemic value refers to novelty value (Wang et al., 2013). However, novelty value in this study is a multi-dimensional value, including product knowledge and environmental knowledge.

Knowledge has rarely been examined in terms of the environment. However, it is an important element for determining consumers' purchase intention. Knowledge is recognized in consumer research (Laroche, Bergeron,& Barbaro-Forleo, 2001) and influences each phase of the decision process (Alba & Hutchinson, 1987). Flamm (2006) defines knowledge as an accurate understanding of the issue under consideration. Most of the studies conducted have only included environmental

knowledge (Afzaal & Israr, 2012; Chan & Lau, 2000; Jamaliah et al., 2013; Kanchanapibul, Lacka, Wang, & Chan, 2014; Ooi et al., 2012; Syaidatine Akila& Norazah, 2013; Vazifehdoust et al., 2013). However, product knowledge could be an important factor that influences consumers' intention to purchase. According to Hessami and Yousefi (2013), product knowledge has an important role in new product selection. When consumers encounter new products, they would evaluate the information they have and make a decision whether to purchase the product or not (Lin & Huang, 2012). As the product becomes more complicated, extra information will be required before a purchase decision can be made.

According to Fryxell and Lo (2003, p.45), environmental knowledge is defined as "a general knowledge of facts, concepts and relationships concerning the natural environment and its major ecosystems". Nik Ramli (2009) defines environmental knowledge as "the state of an individual's knowledge about an issue impacting significantly upon his or her decision-making process". In other words, environmental knowledge means people's ability to understand the environment - from environmental issues and its impact to solutions as well as prevention of environmental degradation and contributing to the environment by purchasing a particular product.

Many studies support the assumption that environmental knowledge is a significant predictor of green purchase behavior. Chan and Lau (2000) include ecological knowledge as one of the predictors of green purchase behavior in China. The result shows that although Chinese people may not be as environmentally knowledgeable as Americans, they appear to exhibit relatively stronger affective responses to

environmental issues. The findings show that Chinese people with more ecological knowledge have strong actual purchase behavior. Ooi et al. (2013) have show that environmental knowledge has a positive relationship with green purchase intention. Mostafa (2007) found that men are more knowledgeable than women in ecological issues. In contrast, Paco and Raposo (2009) show that environmental knowledge does not contribute to green purchase behavior. Jamaliah et al. (2013) also found that environmental knowledge does not significantly affect consumers' perception of environmental advertisement but significantly influences the perception of environment-friendly automobiles and purchase intention.

In view of contrary findings from the extant literature, this research tests the relationship between novelty value and attitude and green purchase intention. Therefore, environmental knowledge and product knowledge are included as additional dimensions of novelty value to predict green purchase intention as knowledge plays an important role in the decision-making process which influences green purchase intention.

2.9.5 Conditional Value

In the 1970s, the influence of the conditional factor on human behavior was studied in the marketing discipline. Belk (1974) found that individuals' interaction with the conditional factors influences consumer behaviors. According to Hansen (1972); and Belk (1974), the basic determinants for conditional factors are "time, place and context" (Candan & Yıldırım, 2013). However, Sheth et al. (1991) say that conditional value is derived from external factors because the factors that change the

consumers' behavior and influence purchasing decisions emerge as a result of a condition caused by the external environment. Therefore, Sheth et al. (1991, p. 162) define conditional value as:

> *"The perceived utility acquired by an alternative is the result of specific situation or set of circumstances facing the choice maker. An alternative acquires conditional value in the presence of antecedent physical or social contingencies that enhance its functional or social value. Conditional value is measured on a profile of choice contingencies."*

For example, certain products only have seasonal value, such as greeting cards; certain products are associated with once in a life event, such as wedding dress; whereas some are used only in emergencies, such as hospital services. Generally, consumers' conceptions of conditional value cannot be known until the condition that will change their behavior emerges (Candan & Yıldırım, 2013). Holbrook (1994) assumes that conditional value depends on the context in which the value judgment occurs. Conditional value only exists for products or services whose value is strongly tied to use in a specific context (Wang et al., 2013). It might be derived from temporary functional or social value (Sheth et al., 1991); therefore, it arises when the situation creates a need. For instance, as environmental issue has become serious, it creates a need for green products to overcome the situation.

Belk (1974), define such situation as one of the factors related to particular times and places and do not rely on personal knowledge and stimulus attributes, which has demonstrable and systematic effects on current behavior. Nicholls, Roslow, Dublish, & Comer (1996) presume situational factors as the circumstances surrounding individuals when they respond to stimuli pertinent to their needs and wants (Lin &

Huang, 2012). For example, a winter coat may have significant value during winter snowstorm, but no value during a hot summer day. Based on Hull's concept of stimulus dynamics, Howard and Sheth (1969), recognizes the importance of learning occurring as an outcome of experience with a given situation. Howard and Sheth (1969) extended Howard's earlier work by defining the construct inhibitors as non-internalized forces that discourage buyers' preferences (Sheth et al., 1991). Sheth (1974) explains the concept of inhibitors in his model of attitude-behavior relationship as anticipated situations and unexpected events (Sheth et al., 1991).

Conditional value is one of the important predictors of green purchase behavior as cash rebate or government subsidy always grabs the attention of consumers and brings consumers to explore the products or services. The government is actually the largest consumer in any society (Hessami & Yousefi, 2013). Therefore, the government's role is important in riving consumers' decision-making. Lin et al. (2010); and Lin and Huang (2012) found that conditional value positively influences consumers' choice behavior. According to Sheth et al. (1991), behavior cannot be accurately predicted based on attitude or intention alone. Conditional value also plays an important role in determining purchase behavior. As mentioned earlier, sales of hybrid car increases after the implementation of tax exemption in 2011 while a slower sales trend occurs after the end of tax exemption in 2014. Hence, conditional value in terms of cash rebate and government subsidy might influence green purchase intention and it could be the reason for consumers purchasing the hybrid car in Malaysia.

2.10 The Mediating Role of Consumers' Attitude on the Relationship between Consumers' Consumption Values and Intention to Purchase a Hybrid Car

Besides being a predictor for green purchase intention, attitude concept has been widely used as a central role in both scientific and attempts to understand human thought and behavior. According to Teng, Wu,and Huang (2014), attitude and behaviors are derived from values, which are the most abstract of the social cognitions. An individual's attitude is one of the important factors that determinebehavior (Ajzen, 2005); while an individual's perceived value influences attitudinal factors directly and indirectly (Tudoran, Olsen & Dopico, 2009).

In a review of literature, Williams (1979) concludes that the "evidence that values do influence subsequent behaviors is not available in the quantity and with the decisiveness we would prefer, but the total research-based data are nevertheless quite impressive". Differences in values show significant differences in a variety of attitudinal and behavioral outcomes. Homer and Kahle (1988) demonstrate that values influence attitudes; in turn, attitudes influence behaviors in a natural food shopping related studies.

Attitude serves as a mediator between values and behavioral intentions. Based on theories such as TRA, TPB and value-attitude-behavior model (e.g., Bem, 1970; Eagly & Chaiken, 1993; Heberlein, 1981) and previous causal research (e.g., Fulton, Manfredo, & Lipscomb, 1996; Homer & Kahle, 1988), there is indication that attitude mediates the relationship between value and behavior. According to Homer and Khale (1988), value indirectly influences behavior through attitude in the

cognitive hierarchy model. The influence of attitude as mediator on the relationship between value and behavior is supported by previous studies. Previous studies encompass a wider range of consumer behaviors, such as choice of leisure activities (Beatty, Kahle, Homer,& Misra, 1985); automobile purchase (Henry, 1976); mass-media usage (Becker & Connor, 1981); products choice criteria (Pitts & Woodside, 1983); wild land preservation (Vaske & Donnelly, 1999); mall shopping behavior (Shim & Eastlick, 1998); e-shopping behavior (Jayawardhena, 2004); effect of green labels (Bjork, 1998); ecological behavior (Milfont, Duckitt & Wagner, 2010); and so forth. This shows that attitude does play a mediating role between values and behaviors.

Homer and Kahle (1988) found that attitude mediates the relationship between value and food shopping behavior. Honkanen, Verplanken and Olsen (2006) found that attitude mediates the relationship between ethical values and intention to consume organic foods. It is possible that attitudes only partially mediate the relationship between value and behavior or intention if subjects do not have a well-formed attitude (Honkanen & Verplanken, 2004). Therefore, the mediating role of consumers' attitude between the relationship of value and behavior is established and should be included in this value-behavior model.

2.11 Research Model Development

The well-known concepts and studies on this study's topic have been discussed and are useful for developing the research model for this study. Figure 2.1 illustrates the model developed for this study which shows the independent variables (functional value, symbolic value, emotional value, novelty value and conditional value); mediator (consumers' attitude toward the hybrid car), moderator (brand preference) and dependent variable (intention to purchase a hybrid car). There are six direct antecedents of green purchase intention, including consumers' attitude, functional value, symbolic value, emotional value, novelty value and conditional value. Consumption values are expected to have both direct and indirect relationships with intention to purchase a hybrid car, whereas consumers' attitude toward the hybrid car is expected to have a direct relationship with intention to purchase the hybrid car and also as a mediator between consumption values and intention to purchase the hybrid car. Besides, brand preference is also believed to influence the relationship between consumers' attitude toward the hybrid car and intention to purchase the hybrid car.

Consumption values are expected to have a direct relationship with consumers' attitude toward the hybrid car. Functional value, symbolic value, emotional value, novelty value and conditional value are hypothesized to directly and positively predict consumers' attitude toward the hybrid car (Hessami & Yousefi, 2013). In other words, functional value, symbolic value, emotional value, novelty value and conditional value actually directly and indirectly predict intention to purchase a hybrid car through consumers' attitude toward the hybrid car. Thus, consumers'

attitude toward the hybrid car acts as a positively significant mediator between consumption values and green purchase intention (Hessami & Yousefi, 2013).

Brand preference acts as a moderator that moderates the relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car. The research model is primarily based on the theory of consumption values, which is the underpinning theory (see Figure 2.2). Consumers' attitudes toward the hybrid car and brand preference are included as new contributions to the model to improve the predictive value of green purchase intention. The research model is shown in Figure 2.1 in the following section.

2.12 Research Model

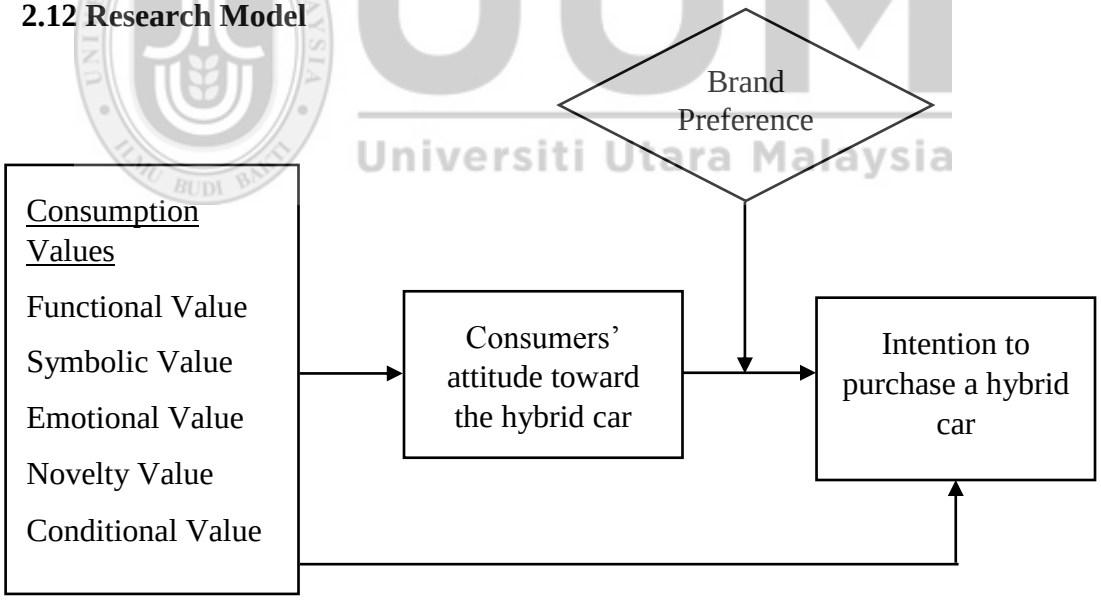

Figure 2.1
Research Model

2.13 Theory of Consumption Values

The theory of consumption values was developed by Sheth, Newman and Gross in 1991. The theory of consumption values explains why consumers choose to buy or not to buy a specific product; why consumers choose one product type over another; and why consumers choose one brand over another (Sheth et al., 1991). They have mentioned in their study that there are three fundamental propositions axiomatic to the theory as follows:

1. Consumer choice is a function of multiple consumption value.
2. Consumption values make differential contributions in any given choice situation.
3. Consumption values are independent.

The theory of consumption values is applicable to product types, such as durable and nondurable and industrial goods and services (Sheth et al., 1991). This theory may be used to predict consumers' consumption behavior, specifically purchase intention, as well as to describe and explain it according to the result. The theory has determined five consumption values: functional value, social value, epistemic value, emotional value and conditional value, that influences consumers' consumption behavior. Either one or all of the consumption values mentioned influence consumers' consumption decision (Sheth et al., 1991).

Basically, consumption values refer to the desirable approach to attain individual's values (Lai, 1995). Values are achieved through actions and activities such as

economic exchange, social interaction, possession and consumption (Sheth et al., 1991). According to Lai (1995), consumption values are instrumental in nature. In other words, it is closely related to human needs and motivation. It is created to drive consumer in decisions making or provide solutions for internal or external causes.

Various components of models advanced by Maslow (1943, 1954, 1970); Katona (1953, 1971); Katz (1960); and Hanna (1980) are consistent with each consumption value in this theory (Sheth et al., 1991). More than 200 studies have adapted or adopted the theory and good predictive validity has been consistently shown in all the studies, such as buying decisions related to food stamps, cocaine, computer dating and sporting events attendance; product decisions involving automobiles; and brand decisions including toothpaste, aspirin as well as automobiles (Sheth et al., 1991).

Sheth et al. (1991) applied this theory in their study related to cigarette smoking (buying decision between smokers versus non-smokers, product type between filtered versus non-filtered cigarettes and brand choice between Marlboro versus Virginia Slims). Long and Schiffman (2000); and Sweeney and Soutar (2001) also applied this theory in their study. Out of the five values, Sweeney and Soutar (2001) only adopted functional value, social value and emotional value due to the lower importance of epistemic value and conditional value in purchasing durable commodities. In addition, the purpose of their study was to develop a general value measure. Long and Schiffman's (2000) study aimed to segment consumers corresponding to their value and relationship with service providers and to understand motivation and behavior.

According to Lin et al. (2010), no one has applied theory of consumption values in green consumption research before. More recent studies that have adapted the theory of consumption values like Lin et al. (2010) and Lin and Huang (2012) aimed to increase understanding of consumer choice behavior and assist practitioners, policy-makers and academic researchers to determine what motivates specific choices. Wang et al. (2013) applied this theory to investigate the key determinants of behavioral intention in employing pay-per-use mobile artifacts for Apps. The most recent and the only study that is based on the theory of consumption values in Malaysia is by Alesia et al. (2014) with the purpose of examining the consumption values, environmental concern and attitude to purchase intention in the context of green products. Thus, the theory of consumption values is more applicable to explain individual consumption intention.

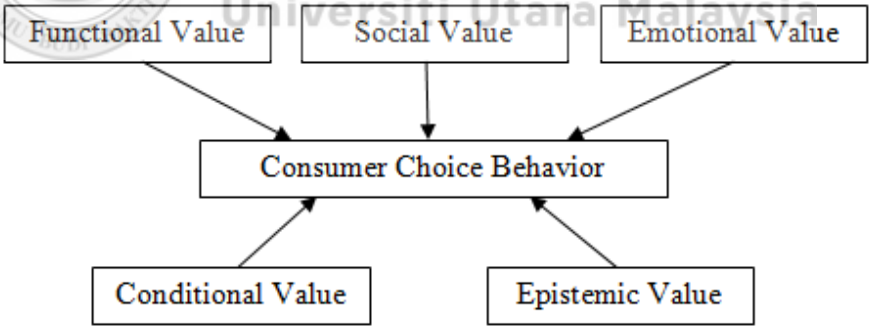

Figure 2.2
Conceptual Framework of Theory of Consumption Values
Source: Sheth, Newman and Gross, 1991

Past studies have a marked lack of use of the theory of consumption values in the study of purchase behaviour especially green purchase behaviour. The theory of consumption values has been used in a wide variety of settings as mentioned by Sheth et al. (1991). As an evidenced for the above statement, theory of consumption

values had been applied to study consumer choice behaviour (Lin et al., 2010); green product choice behaviour (Lin & Huang, 2012); adventure tourism (Williams & Soutar, 2009); mobile application use (Wang et al., 2013); smart phones user experience (Bødker et al., 2009); and green electrical product – air conditioner (Alesia et al., 2014). However, none of the study conducted for green automobile that applying theory of consumption values. There are studies conducted in green automobile in Malaysia by Hong et al. (2012); Hong et al. (2013) and Jamaliah et al. (2013) as well as cross-cultural study between Korea and US by Oliver and Lee (2010). However, none of the above mentioned study adopted or adapted theory of consumption values in their study.

Nevertheless, theory of consumption values had been tested in different context such as Taiwan (Lin et al., 2010; Lin & Huang, 2012; Wang et al., 2013), Egypt (Bødker et al., 2009), and Australia (Williams & Soutar, 2009). In Malaysia, there are studies conducted for theory of planned behaviour (Chan, 2013; Hong et al., 2012; Hong et al., 2013; Iman Khalid & Yuserrie, 2011; Tan, 2013), and theory of reasoned action (Ooi et al., 2012; Punitha & Azmawani, 2011; Ramayah et al., 2010) to predict green purchase behaviour. In fact, only Alesia et al. (2013) have tested theory of consumption values in Malaysia for consumer intention to purchase green product specifically air conditioner. The findings of the previous studies are shown in Table 2.3. As mentioned by Williams and Soutar (2009), consumer value is an important antecedent to consumer intention. Therefore, applying theory of consumption values can provide researchers new findings and broader the insight for the practitioners.

Table 2.3
Summary of Studies that Used Theory of Consumption Values

Author (Year)	Area of use TCV	Dependent variable	Independent variables	Finding
Alesia et al. (2014) Malaysia	Air Conditioner	Consumer intention to purchase	Functional value Social value Emotional value Conditional value Epistemic value Environmental concern Attitude	There are significant relationships between the consumption values with purchase intention, environmental concern with attitude, and attitude with purchase intention. The consumption values were found to be insignificant with attitude.
Bødker et al. (2009) Egypt	User experience of smart phones	Consumer choice behaviour	Functional value Social value Emotional value Epistemic value Conditional value	All values varied over time (decrease or increase) shaping and thereby reflecting the user experience.
Lin et al. (2010) Taiwan	Choice behaviour toward green products	Consumer choice behaviour	Functional value (Price and Quality) Social value Emotional value Additional value Epistemic value	Respondents with high environmental concern express more support for green products than respondents with low environmental concern. Consumption values are independent of each other is one of propositions for the theory of consumption values.

Table 2.3 (Continued)

Author (Year)	Area of use TCV	Dependent variable	Independent variables	Finding
Lin and Huang, (2012) Taiwan	Influence factors on consumer choice behaviour regarding green products	Consumer choice behaviour regarding green products	Functional value (Price and Quality) Social value Emotional value Conditional value Epistemic value Environmental concern	Functional value and social value does not have significant impact on choice behaviour. Conditional value, epistemic value and emotional value have positive impact on consumer choice behaviour.
Wang et al. (2013) Taiwan	Mobile Application Use	Behavioural intention to use	Conditional value Functional value Social value Emotional value Epistemic value	Consumption values especially epistemic and emotional have stronger relationship and significantly affect consumer behavioural intention to use mobile Apps. Conditional value influences behavioural intention to use mobile Apps through the mediation of other consumption value (functional, social, emotional and epistemic value).
Williams and Soutar, (2009) Australia	Adventure tourism context	Intentions	Functional value Value for money Emotional value Social value Novelty value Satisfaction	Customer value was conceptualized as a multi-dimensional construct and indeed three value dimensions included value for money, emotional and novelty value had strong and positive influences on customer satisfaction and future intentions.

2.14 Research Hypotheses Development

The above literature review has shown the important concepts and useful studies for developing the framework for this study. The following is a discussion of the relationship between the constructs of the study and the relationship between independent variables and dependent variable.

2.14.1 The Relationship between Consumers' attitude toward the Hybrid Car and Intention to Purchase a Hybrid Car

Several studies have confirmed that attitude to green products as well as environmental attitude is important predictors of green purchase behavior (Punitha & Azmawani, 2011). Other studies have also revealed that attitude to green products and environmental attitude are predictors of green purchase intention (Kim & Chung, 2011; Ooi et al., 2012; Syaidatina Akila & Norazah, 2013;Tan, 2013;Vazifehdoust et al., 2013).

Punitha and Azmawani (2011) found that environmental attitude is the most significant predictor influencing green purchase behavior in Malaysia. Additionally, Vazifehdoust et al. (2013) conclude that attitude is the best predictor of the intention and behavior to purchase green products. Kim and Chung (2011) state that consumers' attitude toward buying organic skin or hair care products, positively influences their intention to purchase organic skin or hair care products. Similarly, Tan (2013) found that attitude to green and sustainable homes have a positively causal effect on behavioral intention. Syaidatina Akila and Norazah (2013) conclude

that attitude is an important factor in determining a person's intention as well as actual behavior. Therefore, based on the above discussion, the following hypothesis is developed:

H1: Consumers' attitude toward the hybrid car is positively associated with consumers' intention to purchase hybrid car in Malaysia.

2.14.2 The Relationship between Functional Value and Intention to Purchase a Hybrid Car

Most previous studies have shown that functional value does not significantly affect attitude as well as green purchase behavior. According to Lin et al. (2010); and Lin and Huang (2012), functional value, in terms of price and quality, have been used to predict consumers' choice behavior for green products. Results from both studies reveal that functional value does not influence consumers' choice. A similar finding was found by Williams and Soutar (2009) where functional value does not significantly influence intentions in the context of adventure tourism.

In contrast, Wang et al. (2013) found that functional value positively affects the behavioral intention to use mobile apps. Hessami and Yousefi (2013) also found that functional value significantly affects green purchasing behavior through the mediation of attitude to green purchases and green purchasing intention. Therefore, this study proposes the following hypothesis:

H2: Functional value positively effect consumers' intention to purchase a hybrid car.

2.14.3 The Relationship between Symbolic Value and Intention to Purchase a Hybrid Car

According to Oliver and Lee (2010), the relationship between social values and purchase intention of a hybrid car is different according to consumers' culture. The researchers have found that social value has a positive effect on collectivism culture and a negative effect on individualist culture. Consumers in individualist culture might feel that peer influences threaten their freedom. Malaysia is considered as a highly collectivistic society (Arfa Adlina, 2012). Collectivism appears to influence consumers' motivation to engage in environmentally-conscious behavior (Kaufmann et al., 2012). McCarty and Shrum (1994, 2001) found a positive effect of collectivism on consumers' beliefs about recycling and their recycling behavior. However, most studies (Lin et al., 2010; Lin & Huang, 2012; Williams & Soutar, 2009; Punitha & Azmawani, 2011) have revealed that social values do not significantly influence consumers' choice behavior or behavioral intention for green products as well as in the adventure tourism context.

In contrast, Lee (2008) found that social influence is the top predictor of green purchase behavior among Hong Kong adolescents. Nabsiah et al. (2011) found the same result where social influence is the most important predictor of green purchase behavior among environmental volunteers in Penang, Malaysia. The same result was revealed in Thailand where reference group's influence is the most important variable contributing to green purchasing behavior (Arttachariya, 2012). Lee et al. (2011) found that social influence is the second highest predictor of green purchase

intention among Malaysian consumers in Melaka and Kuala Lumpur. However, Tan (2013) found that social referents do not influence behavioral intention to purchase green and sustainable homes in Malaysia.

Nabsiah et al. (2011); and Punitha and Azmawani(2011) found that self-identity does not significantly influence green purchase behavior. On the other hand, self-identity was found to be significant with behavioral intention to purchase green and sustainable homes in Malaysia (Tan, 2013). Likewise, the result of Lee's (2008) study shows that self-image is the third predictor of Hong Kong adolescents' green purchase behavior. Ooi et al. (2012) conclude that peer pressure is one of the variables that influence green purchase intention. Therefore, this study proposes the hypothesis below:

H3: Symbolic value positively effect consumers' intention to purchase a hybrid car.

2.14.4 The Relationship between Emotional Value and Intention to Purchase a Hybrid Car

Emotional value is the feeling aroused by a product or situation. Different products arouse different feelings. From the automobile perspective, emotional value is reflected in the comfort and safety of driving a particular vehicle. In other words, users who feel driving a hybrid car is more comfortable and safe than a regular vehicle are more likely to purchase a hybrid car.

In terms of green products, emotional value positively affects consumers' choice behavior (Lin et al., 2010; Lin & Huang, 2012). In terms of the mobile apps, emotional value has the second highest influence on behavioral intention. The same result was obtained for adventure tourism where emotional value positively affects behavioral intention. Hence, the following hypothesis is developed:

H4: Emotional value positively effect consumers' intention to purchase a hybrid car.

2.14.5 The Relationship between Novelty Value and Intention to Purchase a Hybrid Car

Novelty value is the desire for knowledge or curiosity to a product (Sheth et al., 1991). Novelty value is used to replace epistemic value in this study since both have the same definition. Lin and Huang (2012); and Lin et al. (2010) found that epistemic value of green products has a significantly positive effect on consumers' choice behavior. The same results have been obtained in different contexts, such as mobile application (Wang et al., 2013); and adventure tourism (Williams & Soutar, 2009).

Knowledge refers to product knowledge and environmental knowledge. Environmental knowledge has been identified as a significant predictor of green purchase behavior. Nabsiah et al. (2011) conclude that environmental knowledge and green product knowledge are positively related to green purchase behavior. Green product knowledge ranks as the third important factor, while environmental knowledge is ranked fourth. Oliver and Lee (2010) conclude that green product knowledge positively influences the intention to purchase a hybrid car. Afzaal and

Israr (2012) confirm a positive relationship between environmental knowledge and green purchase intention among Pakistani consumers. Ooi et al. (2012) show the same finding where environmental knowledge is positively related to green purchase intention among Malaysian consumers. Therefore, the next hypothesis is developed as follows:

H5: Novelty value positively effect consumers' intention to purchase a hybrid car.

2.14.6 The Relationship between Conditional Value and Intention to Purchase a Hybrid Car

In the 21st century, environmental degradation is an important issue that needs to be solved by all countries. From the automobile perspective, the hybrid car is a vehicle produced to solve environmental degradation and create a sustainable environment for future generations. Therefore, in this situation, the government's policies for hybrid cars and manufacturers' efforts in promoting and giving discounts for purchasing hybrid cars are conditional values that affect consumers' purchase behavior.

According to studies conducted by Lin et al. (2010); and Lin and Huang (2012), conditional value is the most influential predictor of green purchase behavior among the consumption values. Punitha and Azmawani(2011) also found that government's role is an important predictor of green purchase behavior. Ooi et al. (2012) found that government initiative is positively related to green purchase intention at the same time the most powerful antecedent. Hence, the following hypothesis is developed:

H6: Conditional value positively effect consumers' intention to purchase a hybrid car.

2.14.7 The Relationship between Consumption Values and Consumers' attitude toward the Hybrid Car

As mentioned earlier, consumption values is a multi-dimensional approach with five dimensions (i.e., functional value, symbolic value, emotional value, novelty value and conditional value) as identified by Sheth et al. (1991). However, up to now, only one study has examined the relationship between consumption values and attitude (i.e., Alesia et al., 2014). Researchers have found that there is no significant relationship between consumption values and attitude. Therefore, the following hypotheses are developed:

H7: Functional value positively effect consumers' attitude toward the hybrid car.

H8: Symbolic value positively effect consumers' attitude toward the hybrid car.

H9: Emotional value positively effect consumers' attitude toward the hybrid car.

H10: Novelty value positively effect consumers' attitude toward the hybrid car.

H11: Conditional value positively effect consumers' attitude toward the hybrid car.

2.14.8 Mediating Effects of Consumers' attitude toward the Hybrid Car

Attitude has an intermediary role between values and green purchase intention. Follows and Jobber (2000) found that a relationship between values and attitude to

purchase intention does exist. Vazifehdoust et al. (2013) examined the effect of the mediator between environmental factors and green purchase intention. The study concludes that attitude is a significant mediator of environmental variables and green purchase intention.

Attitude towards buying organic skin or hair care products acted as a direct predictor of intention as well as a mediator between consumer values and intention to purchase organic skin or hair care products in the study of Kim and Chung (2011). The result of the study shows that attitude significantly mediates consumer values and intention. Therefore, the following hypotheses are proposed:

H12: Consumers' attitude toward the hybrid car positively mediates the relationship between functional value and intention to purchase a hybrid car.

H13: Consumers' attitude toward the hybrid car positively mediates the relationship between symbolic value and intention to purchase a hybrid car.

H14: Consumers' attitude toward the hybrid car positively mediates the relationship between emotional value and intention to purchase a hybrid car.

H15: Consumers' attitude toward the hybrid car positively mediates the relationship between novelty value and intention to a purchase a hybrid car.

H16: Consumers' attitude toward the hybrid car positively mediates the relationship between conditional value and intention to purchase a hybrid car.

2.14.9 Moderating Effects of Brand Preference

According to Rizvi (2001), based on the utility maximization criteria, consumers' choices are based on their preferences for alternatives. Oliver (1999) mentions that consumers with high brand preferences have strong cognitive beliefs and an affective structure expressed by level of brand liking. The preferences exhibit behavioral tendencies (Zajonc & Markus, 1982). However, this has not yet been expressed in the act of purchasing (Mellens, Dekimpe,& Steenkamp, 1996). According to Paredes (2006), there are empirical evidences suggesting that cars are actually experience goods, where consumers will need to purchase and only learn about it after buying and trying. This is because consumers lack information on characteristics of the car. Therefore, brand preference plays an important role here in affecting green purchase intention. Automobiles are considered as a high involvement product as mentioned before. Hence, consumers' brand preference has a strong influencer on consumers' purchasing intention. This is because brand preference is built from experiences. Therefore, before performing a behavior for a high involvement experience good like the hybrid car, consumers will choose the brand they prefer with confidence.

According to Biel and Dahlstrand (2005); Wheale and Hinton (2007); and Sener and Hazer (2008), brand is one the factors that influences consumers' behavior. Pandey and Pandey (2013) proved that brand preference actually affects consumers' purchase behavior. Rundle-Thiele and Mackay (2001) indicate that brand preference significantly affects consumers' behavior. Likewise, Hellier et al. (2003) found that brand preference positively influences consumers' future behavior intentions. This shows that brand preference really moderates consumers' purchase behavior. Chedi

(2008) examined the moderating role of brand preference and the influence of consumers' product schema. The study concludes that brand preference is a significant moderator. Since there are no studies on brand preference as moderator between consumers' attitude toward the hybrid car and green purchase intention, the following hypothesis is developed:

H17: Brand preference moderates the relationship between consumers' attitude toward the hybrid car and consumers' intention to purchase a hybrid car.

2.15 Hypothesis Summary

Based on the framework in Figure 2.1, the hypotheses of this study are formulated as below:

H1: Consumers' attitude toward the hybrid car is positively associated with consumers' intention to purchase a hybrid car in Malaysia.

H2: Functional value positively effect consumers' intention to purchase a hybrid car.

H3: Symbolic value positively effect consumers' intention to purchase a hybrid car.

H4: Emotional value positively effect consumers' intention to purchase a hybrid car.

H5: Novelty value positively effect consumers' intention to purchase a hybrid car.

H6: Conditional value positively effect consumers' intention to purchase a hybrid car.

H7: Functional value positively effect consumers' attitude toward the hybrid car.

H8: Symbolic value positively effect consumers' attitude toward the hybrid car.

H9: Emotional value positively effect consumers' attitude toward the hybrid car.

H10: Novelty value positively effect consumers' attitude toward the hybrid car.

H11: Conditional value positively effect consumers' attitude toward the hybrid car.

H12: Consumers' attitude toward the hybrid car positively mediates the relationship between functional value and intention to purchase a hybrid car.

H13: Consumers' attitude toward the hybrid car positively mediates the relationship between symbolic value and intention to purchase a hybrid car.

H14: Consumers' attitude toward the hybrid car positively mediates the relationship between emotional value and intention to purchase a hybrid car.

H15: Consumers' attitude toward the hybrid car positively mediates the relationship between novelty value and intention to purchase a hybrid car.

H16: Consumers' attitude toward the hybrid car positively mediates the relationship between conditional value and intention to purchase a hybrid car.

H17: Brand preference moderates the relationship between consumers' attitude toward the hybrid car and consumers' intention to purchase a hybrid car.

2.16 Chapter Summary

From the literature review related to green purchase intention as described above, three important points can be identified. First of all, conducting a study of green purchase intention of hybrid car can help marketers and the government to understand the needs of consumers and predict the future of the hybrid car in Malaysia. Secondly, most researchers have used the TRA and TPB models to identify and determine the antecedents of green purchase intention. There are limited studies that have used the theory of consumption values for green purchase intention, especially in Malaysia. Finally, besides defining the five major variables that affect

hybrid car purchase intention, this chapter further elaborates on the mediating role of consumers' attitude and moderating effect of brand preference.

This chapter also proposes a theoretical framework or research model based on the theory of consumption values. Seventeen research hypotheses are developed from the model with the goal of examining the relationship between attitude to the hybrid car purchase intention and the relationship between consumption values (functional value, symbolic value, emotional value, epistemic value and conditional value) and hybrid car purchase intention. The moderating effect of brand preference on the relationship between consumers' attitude toward the hybrid car and hybrid car purchase intention is also elaborated on. Finally, this study also examines consumers' attitude as mediator of the relationship between consumption values (functional value, symbolic value, emotional value, epistemic value and conditional value) and hybrid car purchase intention.

CHAPTER 3

METHODOLOGY

3.1 Chapter Overview

This chapter discusses the methodology of this study. Amongst others, this chapter elaborates on the study's research design, operationalization of variables, the population and sample of the study as well as data collection procedure. Thereafter, the chapter discusses the pilot test conducted for the purpose of deciding the actual instrument to be utilized in this study and the reliability of the scales. The chapter ends with a discussion of the statistical techniques used to analyze the data.

3.2 Research Design

Research is a step-by-step process to provide better understanding of a problem or issue by collecting and analyzing information and acquiring knowledge (Creswell, 2012; Matthews & Ross, 2010). Research design is a work plan which includes the overall methodology in detail to ensure the collected data can answer the research questions as accurately as possible. As mentioned by Sekaran (2003), applying the right approach will greatly strengthen the value of the research findings. Therefore, in order to draw a powerful and convincing conclusion with ability to answer the research questions, the research design should be planned from the beginning according to the research problem, questions, objectives and hypotheses.

According to Chisnall (2001), there are three types of research design based on the purpose of the study, namely exploratory, descriptive and causal. Exploratory research gathers initial information that can help to uncover problems and suggest hypotheses. Exploratory research is conducted when there are few or no studies to refer to while the researcher has observed something that needs more understanding. Descriptive research is to obtain additional information and explain in detail what is happening. Lastly, explanatory or causal research explains and tries to understand the cause-and-effect between variables. The three mentioned designs are interrelated and it can combine for more than one purpose.

Based on the research objectives, this study aims to determine the antecedents of intention to purchase a hybrid car specifically based on the theory of consumption values in the automobile market with the mediating effect of consumers' attitude toward the hybrid car and moderating effect of brand preference. Therefore, this study is an explanatory or causal reseach. Figure 3.1 shows the research design chart.

According to Hair, Bush, and Ortinau (2009), quantitative research methods are often associated with descriptive and causal or explanatory research designs and associated with exploratory research design once in a while. Therefore, this study uses survey to collect data from primary sources which can answer the research questions. This is a cross-sectional study where data is collected once to answer the research questions.

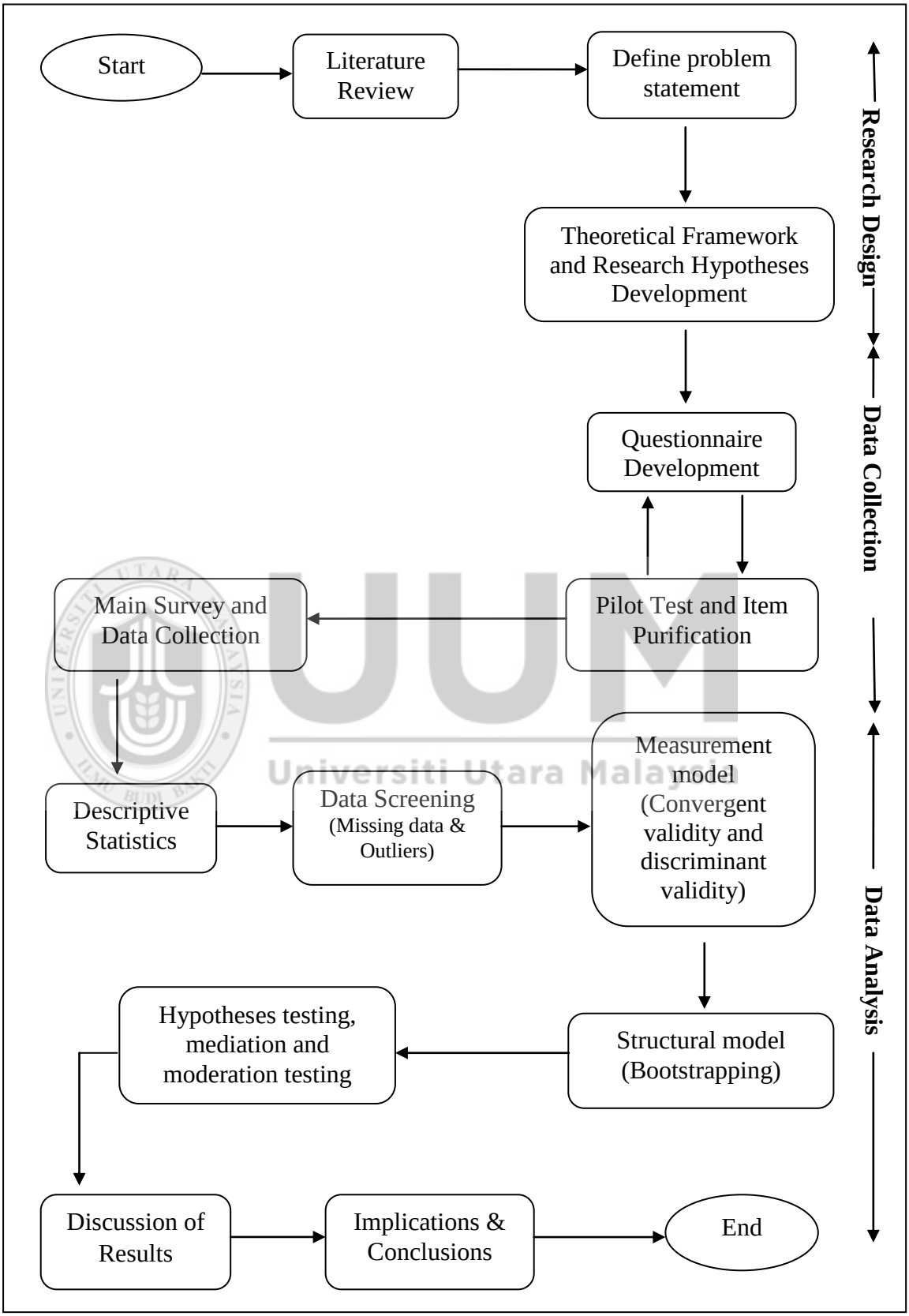

Figure 3.1
Research Design Chart

3.3 Quantitative Research Design

Quantitative research method is a technique used to measure specific characteristics through formal questions with predetermined response options from a large number of samples (Hair et al., 2009). The purpose of using this approach is to provide a concrete yet concise answer to research questions through data collection and information analysis. There are advantages and disadvantages of using quantitative research design. Quantitative research design allows researchers to reach a large number of respondents. Additionally, the findings of the study are more reliable and objective. Besides, the findings of the research can be generalizable as long as the contexts are similar. The quantitative method can validate relationships and establish cause-and-effect as well as test theories and hypotheses. However, researchers must identify the method to be used based on the research problems and research objectives.

This study has chosen the quantitative method to collect data instead of the qualitative method due to several reasons. First of all, the purpose of this research is to answer business problems and provide information to solve the problems instead of identifying business problems (Hair et al., 2009). The business problem here is that the total vehicle sales have grown but the hybrid vehicle sales have dropped.

Secondly, this research uses the quantitative method to collect the data to test the theory and model to explain the behavior as well as relationships between the variables rather than build a theory (Hair et al., 2009). The purpose of this study is to test which among the consumption values influences consumers' intention to

purchase a hybrid car the most. This study is carried out with the purpose of testing the ability of the theory of consumption values to explain the green purchase intention in Malaysia over the other theories. This is because most of the studies conducted in Malaysia have been based on the TPB or TRA as mentioned before. Therefore, consumption values should be tested as it has been neglected by researchers and it might be better than the other theories in explaining consumers' behavioral intention.

Lastly, this study examines a new product (hybrid car) in Malaysia (Hair et al., 2009). This study aims to provide some ideas or solutions to the government as well as marketers regarding the market for the hybrid car. The hybrid car was first introduced in 2007 in Malaysia. However, over the last seven years, only three percent of consumers own a hybrid car. Additionally, hybrid car is considered as a high involvement product as mentioned before; hence the time for consumers to accept new technology is much longer than a low involvement product. Because of high involvement product, consumers need more time to look at its performance, search for more information and give more consideration for the quality as well as the safety of the product.

With all the reasons mentioned above, this study has chosen the quantitative method rather than the qualitative method. This study also utilizes a self-administered questionnaire to collect data from the consumers. The unit of analysis for this study is individual consumers in Malaysia.

3.4 Operational Definition

Operational definition is defined as the meaning or concept of the variables or items that makes the variables or items measurable and able to be tested. The variables, dimensions and total number of items used to measure the variables are shown below (Table 3.1).

The measure for intention to purchase a hybrid car proposed in this study is adapted from Punitha and Azmawani(2011); and Kanchanapibul et al. (2014). In this study, intention to purchase a hybrid car is operationalized as consumers' intention to purchase a hybrid car. Consumers' intention is defined as consumers' readiness and willingness to make a purchase (Nik Ramli, 2009). This variable consists of six items on a seven-point Likert scale.

Consumers' attitude toward the hybrid car is operationalized as pre-attitude to the hybrid car. Consumers' attitude toward the hybrid car is adapted from Han, Hsu, and Sheu (2010); while consumers' attitude towards the environment is adapted from Lee (2009); and Hong et al. (2012). Consumers' attitude toward the hybrid car refers to whether consumers have favorable or unfavorable response to the hybrid car. This variable consists of 11 items on a seven-point Likert scale.

Brand preference is operationalized as the first choice brand that consumers prefer to purchase over the other brands for a hybrid car. The measure for brand preference proposed in this study is adapted from Duarte and Raposo, (2010);Hellier et al. (2003); Jamal and Al-Marri (2007); and Overby and Lee (2006). This variable

consists of seven items on a seven-point Likert scale. Besides the seven items, one question is included that requires respondents to choose their preferred brand of hybrid car.

The measure for functional value proposed in this study is adapted from Hong et al. (2012); and Lin and Huang (2012). Functional value is the equivalent between the physical performance or attributes of product or service and the money paid to purchase or use a product or service. The physical performance and attributes include price, quality and maintenance cost. A total of 10 items are adapted for this dimension on a seven-point Likert scale.

In this study, symbolic value is operationalized by three dimensions: social value, social influence and self-identity adapted from Punitha and Azmawani(2011); Tan (2013); Oliver and Lee (2010); and Lee (2009). Social value is defined as the benefits that consumers can receive when they interact with others about hybrid car. Social influence refers to the changes in individual thinking, feelings, attitude and behavior due to the influence of other individuals or groups (Rashotte, 2007). Self-identity is defined as self-perception with certain traits, habits, possessions, relationships and behavior (Schiffman & Kanuk, 1997). In other words, self-identity can be defined as how we see ourselves and we think other people see us. This variable consists of 12 items on a seven-point Likert scale.

Emotional value is adapted from Lin and Huang (2012); Williams and Soutar (2009); and Punitha and Azmawani(2011). Emotional value is the positive or negative feeling aroused when using a product or service. The feeling can be fear or

confidence, safety or danger, excitement or boredom, happiness or sadness. It consists of eight items on a seven-point Likert scale.

The measure for novelty value proposed in this study is adapted from Lin and Huang (2012); and Oliver and Lee (2010). Novelty value refers to information searching and knowledge about a product or service as well as the consequences of a product or service on the environment. It comprises six items on a seven-point Likert scale.

Conditional value is operationalized as an add-on value or benefit to the product's functional and social value. Specifically, it refers to the value or extra benefits given to consumers when buying a product or service. The benefits, such as discounts, promotions, free gifts, subsidies or exemptions are given by the manufacturers or the government. This measure is adapted from Lin and Huang (2012). This dimension consists of five items on a seven-point Likert scale.

Table 3.1
Summary of Variables, Dimensions and Total Number of Items

Variables	**Dimensions**	**Total number of items**
Intention to purchase a hybrid car (Kanchanapibul et al., 2014; Punitha & Azmawani, 2011)	Hybrid car purchase intention	6
Consumers' attitude toward the hybrid car (Han et al., 2010; Hong et al., 2012; Lee, 2009)	Attitude toward the hybrid car Attitude towards the environment	7 4
Brand preference (Duarte & Raposo, 2010; Hellier et al., 2003; Jamal & Al-Marri, 2007; Overby & Lee, 2006)	Preferable brand	1 7
Functional value (Hong et al., 2012; Lin & Huang, 2012)	Price Quality Maintenance Cost	2 4 4
Symbolic value (Lee, 2009; Oliver & Lee, 2010; Punitha & Azmawani, 2011; Tan, 2013)	Social value Social influence Self-identity	4 4 4
Emotional value (Lin & Huang, 2012; Punitha & Azmawani, 2011;Williams & Soutar, 2009)	Feelings aroused when driving or using hybrid car	8
Novelty value (Lin & Huang, 2012; Oliver & Lee, 2010)	Product knowledge Consequences of product on environment	4 2
Conditional value (Lin & Huang, 2012)	Add-on value	5

3.5 Measurement

All the variables in this study are measured by multiple items drawn from previous research except respondents' profile. However, phrasing of the items is modified to fit the sample and local setting. In order to avoid confusion among respondents, all items are measured using a seven-point Likert scale to ensure consistency. The seven-point Likert scale ranges from "1=strongly disagree" to "7=strongly agree".

In this study, consumers' intention to purchase a hybrid car is measured using measurements adapted from Kanchanapibul et al. (2014); and Punitha and Azmawani(2011). Consumers' intention to purchase a hybrid car means consumers' readiness and willingness to purchase a hybrid car. Punitha and Azmawani's (2011) scale had a reliability of 0.861; while Kanchanapibul et al.'s (2014) scale had a reliability of 0.796. The items used to measure green purchase intention are shown in Table 3.2 below.

Table 3.2
Items to Measure Intention to Purchase a Hybrid Car

	Items
1.	I intent to purchase hybrid car because it is environmental-friendly.
2.	I intent to purchase hybrid car even though it is more expensive than conventional car.
3.	I intent to purchase hybrid car over conventional car when their product qualities are similar.
4.	I feel that I will play a great part in helping the environment if I drive hybrid car.
5.	I feel more comfortable if I drive hybrid car rather than conventional car.
6.	I intent to buy hybrid car in near future.

Source: Adapted from Kanchanapibul et al. (2014); and Punitha and Azmawani(2011)

Consumers' attitude toward the hybrid car is measured using the measurements of Lee (2009); Hong et al. (2012); and Han et al. (2010). Consumers' attitude toward

the hybrid car is measured by consumers' attitude toward the hybrid car and consumers' attitude towards the environment. Consumers' attitude toward the hybrid car refers to the favorable or unfavorable response to the hybrid car; whereas consumers' attitude towards the environment refers to the influence of buying a hybrid car on the environment. The reliability scales for the items are adapted from Han et al. (2010); Hong et al. (2012); and Lee (2009); range from 0.807 to 0.95. Table 3.3 show the items used to measure consumers' attitude toward the hybrid car.

Table 3.3
Items to Measure Consumers' attitude toward the Hybrid Car

	Items
Attitude toward the hybrid car	
1.	I like hybrid car because it is good.
2.	I like hybrid car because it is desirable.
3.	I like hybrid car because it is pleasant.
4.	I like hybrid car because it is wise.
5.	I like hybrid car because it is favorable.
6.	I like hybrid car because it is enjoyable.
7.	I like hybrid car because it is positive.
Attitude towards the environment	
8.	It is essential to promote hybrid car in Malaysia.
9.	Hybrid car reduces effect of climate change.
10.	Hybrid car preserves the environment.
11.	Hybrid car reduces the pollution level.

Source: Adapted from Han et al. (2010);Hong et al. (2012); and Lee (2009)

Brand preference is measured using measurements adapted from Duarte and Raposo (2010); Hellier et al. (2003); Jamal and Al-Marri (2007); and Overby and Lee (2006). Brand preference refers to the brand of hybrid car that consumers prefer to buy. There is a reverse item for brand preference. The reliability scale for the adapted measurement ranged between 0.83 and 0.93. The items used to measure brand preference are shown in Table 3.4.

Table 3.4
Items to Measure Brand Preference

Items
1. I like this brand more than any other brand of hybrid car.
2. This brand is my preference brand over any other brand of hybrid car.
3. I would use this brand more than any other brand of hybrid car.
4. This brand meets my requirements of hybrid car better than other brands.
5. I am interested in trying other hybrid car from other brand. (R)
6. When it comes to making a purchase, this brand of hybrid car is my first preference.
7. Brand is very important to define my choice of hybrid car.

Note: (R) Reverse item.
Source: Adapted from Duarte and Raposo (2010); Hellier et al. (2003); Jamal and Al-Marri (2007); and Overby and Lee (2006)

Functional value is measured using measurements adapted from Hong et al. (2012); and Lin and Huang (2012). Functional value refers to the value of physical performance or attribute of the hybrid car. Functional value is measured by price, quality and maintenance cost. Both studies had a reliability of 0.96 and 0.78 which are above the minimum requirement of 0.5. The items used to measure functional value are shown in Table 3.5 below.

Table 3.5
Items to Measure Functional Value

Items
Price
1. Hybrid car offers value for money.
2. Hybrid car is reasonable priced.
Quality
3. Hybrid car is performed better.
4. Hybrid car is well made.
5. Hybrid car has an acceptable standard of quality.
6. Hybrid car is performing consistently.
Maintenance Cost
7. Hybrid car is better in fuel efficiency.
8. Hybrid car will lower down my maintenance cost.
9. Hybrid car is economical driving.
10. Hybrid car consume less petrol.

Source: Adapted from Hong et al. (2012); and Lin and Huang (2012)

In this study, symbolic value is measured by three dimensions: social value, social influence and self-identity. Symbolic value is measured using measurements adapted from Lee (2009); Oliver and Lee (2010); Punitha and Azmawani(2011); and Tan (2013). Social value refers to the benefits that consumers get from the interaction with others who have bought a hybrid car. Social influence refers to decision-making that is influenced by social groups. Self-identity refers to the status of buying a certain product or service. There are two reverse items for symbolic value. The reliability scales of the adapted measurements were between 0.75 and 0.905. The items used to measure symbolic value are shown in Table 3.6.

Table 3.6
Items to Measure Symbolic Value

	Items
Social Value	
1.	If I buy a hybrid car, most people who are important to me will disapprove it. (R)
2.	If I buy a hybrid car, most people who are important to me will appreciate it.
3.	If I buy a hybrid car, most people who are important to me will find it desirable.
4.	If I buy a hybrid car, most people who are important to me will not support it. (R)
Social Influence	
5.	I learned so much about hybrid car from my friends and family.
6.	Most members of my friends and family will expect me to buy hybrid car.
7.	I will follow the advice of my family that I should buy hybrid car.
8.	My friends recommend me that I should buy hybrid car.
Self-identity	
9.	Buying hybrid car would have a negative effect on my self-image.
10.	Buying hybrid car would say something positive about who I am.
11.	Buying hybrid car would say something positive about what I stand for.
12.	I feel proud of being a green person.

Note: (R) Reverse Item
Source: Adapted from Lee (2009); Oliver and Lee (2010); Punitha and Azmawani (2011); and Tan (2013)

Emotional value is measured using measurements adapted from Lin and Huang (2012); Punitha and Azmawani (2011); and Williams and Soutar (2009). Emotional

value refers to the feelings aroused when buying a hybrid car, whether it is a positive feeling or a negative feeling. The reliability for Lin and Huang's (2012) scale was 0.82; while Williams and Soutar's (2009) scale was 0.88. Table 3.7 shows the items used to measure emotional value.

Table 3.7
Items to Measure Emotional Value

	Items
1.	Buying hybrid car will give me feelings of well-being.
2.	Buying hybrid car is exciting.
3.	Buying hybrid car will make me elated.
4.	Buying hybrid car will make me feel happy.
5.	Buying hybrid car will give me feelings of making a good personal contribution to something better.
6.	Buying hybrid car will give me feelings of doing the morally right thing.
7.	Buying hybrid car will give me feelings of a better person.
8.	I am emotionally support hybrid car.

Source: Adapted from Lin and Huang (2012); Punitha and Azmawani (2011); and Williams and Soutar (2009)

The measurement for novelty value was adapted from Lin and Huang (2012); and Oliver and Lee (2010). Novelty value refers to the initiative of the consumer in searching information and knowledge about the hybrid car. Novelty value is measured by hybrid car knowledge and environmental knowledge about the consequences of the hybrid car on the environment. The reliability for Lin and Huang's (2012) scale was 0.87; whereas Oliver and Lee (2010) was 0.78. The items used to measure novelty value are shown in Table 3.8.

Table 3.8
Items to Measure Novelty Value

Items
Product Knowledge
1. Before buying hybrid car, I will obtain substantial information about the different makes and models of products.
2. I will acquire a great deal of information about the different makes and models before buying hybrid car.
3. I am willing to seek out novel information about hybrid car.
4. I like to search for new and different about hybrid car.
Environmental Knowledge
5. I know that hybrid car could reduce the pollution level.
6. I know that hybrid car could reduce environmental harm.

Source: Adapted from Lin and Huang (2012); and Oliver and Lee (2010)

Lastly, conditional value is measured using measurements adapted from Lin and Huang (2012). Conditional value refers to add-on value or extra benefits in terms of functional value and symbolic value when buying a hybrid car. The reliability for Lin and Huang (2012) scale was 0.87. The items used to measure conditional value are shown in Table 3.9 below.

Table 3.9
Items to Measure Conditional Value

Items
1. I will buy hybrid car under worsening environmental condition.
2. I will buy hybrid car when there is a subsidy by government for hybrid car.
3. I will buy hybrid car when there is a discount rates for hybrid car.
4. I will buy hybrid car when there is a promotional activity for hybrid car.
5. I will buy hybrid car when hybrid car is available.

Source: Adapted from Lin and Huang (2012)

A screening question is also included at the beginning of the questionnaire to ensure the respondents have not previously purchased the hybrid cars as this study is carried out to determine the consumers' intention to purchase a hybrid car. Therefore, to ensure the homogeneity of respondents, the mentioned screening question was

included. The demographic information captured in this study inlude gender, age, monthly income, occupation and education level. In all of these questions, respondents are required to choose among the choices and write in the space provided. The measures of the variables in this study are summarized in Table 3.10.

Table 3.10
Summary of Variable Measures

Variables	Scale	No. of items	Sources
Intention to purchase a hybrid car	Likert scale 1-7	6	Kanchanapibul et al. (2014); Punitha & Azmawani (2011)
Consumers' attitude toward the hybrid car	Likert scale 1-7	11	Han et al. (2010); Hong et al. (2012); Lee (2009)
Brand preference	Likert scale 1-7	7	Duarte & Raposo (2010); Hellier et al. (2003); Jamal & Al-Marri, (2007); Overby & Lee (2006)
Functional value	Likert scale 1-7	10	Hong et al. (2012); Lin & Huang (2012)
Symbolic value	Likert scale 1-7	12	Lee (2009); Oliver & Lee (2010); Punitha & Azmawani (2011); Tan (2013)
Emotional value	Likert scale 1-7	8	Lin & Huang (2012); Punitha & Azmawani(2011); Williams & Soutar (2009)
Novelty value	Likert scale 1-7	6	Lin & Huang (2012); Oliver & Lee (2010)
Conditional value	Likert scale 1-7	5	Lin & Huang (2012)

3.6 Study Population and Sample

The population for this study comprises consumers aged 18 and above who live in Klang Valley. The reason for choosing consumers aged 18 and above is because the minimal age for Malaysians to hold a driving license is 17 years of age and most need a car to travel (Choy, Ng, & Ch'ng, 2011). Consumers who visited the

showrooms of Honda, Toyata and Nissan in the Klang Valley were targeted. The Klang Valley was chosen because of high traffic flow and the population in Klang Valley is nearly a quarter of the Malaysia population which is discussed further below.

According to the Government Transformation Program (GTP) report, the ridership reached 437,525 in the morning between 6am to 10am in year 2013 ("Klang Valley", 2014). Besides that, Klang Valley is also a highly concentrated and urbanized area in Malaysia Therefore, the major cities located in the Klang Valley are Kuala Lumpur, Klang, Ampang Jaya, Subang Jaya, Petaling Jaya, Shah Alam (City Population, 2011) were selected in this study. In addition, a total of 7.2 million people which is equal to 24 percent of the Malaysian population are living in the Klang Valley (Saleh, 2014), including those who came from different states, such as Penang, Kedah, Perak, Terengganu, Melaka, Johor and Pahang, who can also contribute to this study.

The showrooms of Honda, Toyota and Nissan were chosen because these companies are the top three hybrid car sellers in Malaysia, making up 90 percent of the hybrid car market. According to Capgemini (2011), individuals or consumers who visit the showroom are considered as serious buyers and not curious buyers. Therefore, the questionnaire was distributed to people who came to the showroom as they are more likely to purchase a new vehicle as compared to those who do not.

According to the official websites of Honda, Toyota and Nissan, there are total of 41 showrooms located in the Klang Valley as shown in Table 3.11. All the showrooms were included in this study to avoid possible bias and inconsistency.

Table 3.11
List of Showrooms in the Klang Valley

Cities	Brand	No. of Showrooms
Kuala Lumpur	Honda	2
	Toyota	2
	Nissan	2
Ampang Jaya	Honda	1
	Toyota	2
	Nissan	1
Klang	Honda	2
	Toyota	4
	Nissan	3
Shah Alam	Honda	3
	Toyota	3
	Nissan	4
Subang Jaya	Honda	1
	Toyota	1
	Nissan	1
Petaling Jaya	Honda	2
	Toyota	4
	Nissan	3

According to Cohen's Rule of Thumb, the minimum sample size suggested for seven arrows pointing at one construct is 228 (Hair, Hult, Ringle,& Sarstedt, 2014). In addition, Roscoe (1975) has noted that a sample size of 30 to 500 is sufficient for most behavioral research. Therefore, the minimum sample size for this study was set at 228.

3.7 Data Collection Procedure

The sampling method that applied in this study is systematic stratified sampling. Systematic stratified sampling is a method where sample is drawn according to the fixed periodic interval within the stratum. Samples are selected from each stratum depending on the population (Hair et al., 2009). In other words, more samples will be acquired in larger strata. Therefore, there are two stages to identify the respondents. First is divided the population into stratum or group or specifically based city in this study. Thereafter, the sample is drawn from each city based on population size from the selected shownroom in Klang Valley.

In this study, the population was divided into groups according to the major cities in the Klang Valley and the population in each city. Thereafter, the minimum sample size for each city was calculated based on the 2010 census in each city (City Population, 2011). According to Mohd Nazri, Jayashree, and Hishamuddin (2013); Nor Azila, Hayatul Safrah, Noratisah, and Azli (2014);and Sudarsan and Urchenna (2012), the response rate for intercept method is about 55 percent. Therefore, 404 sets of questionnaire were distributed in order to achieve a minimal sample size of 228.The number of questionnaires distributed in each showroom is shown in Table 3.12.

Table 3.12
Sample Size Allocated for Each Showroom

City	Population	Minimum sample size for each city	No. of questionnaire to be sent	No. of showrooms in each city	No. of questionnaire sent in each showroom
Kuala Lumpur	1,305,792	(1,305,792/3,605,591)*228= 83	83*56.5/100= 146	6	146/6= 24
Ampang Jaya	478,613	30	54	4	13
Klang	626,944	40	70	9	8
Shah Alam	314,440	20	35	10	4
Subang Jaya	447,183	28	50	3	17
Petaling Jaya	432,619	27	48	9	5
Total	**3,605,591**	**228**	**404**	**41**	

As mentioned earlier, data was collected by self-administered questionnaire through the intercept in selected showrooms in the Klang Valley. Intercept method has been widely used to collect survey data, especially in marketing research (Gates & Solomon, 1982). Intercept is an essential method especially the research is conducted in a timely and effective manner (Rice & Hancock, 2005). Theintercept method in the selected showrooms is more appropriate for this study because individual consumers who visit the showrooms show higher intention than individual consumers who visit the mall. Therefore, systematic intercept method was carried out at the selected showrooms. After the population was stratified, a sample was drawn using systematic sampling procedure.

According to a branch manager of the Honda showroom, the average number of consumers who enter the showroom is about 10 to 15 on weekdays and more than 20

on weekends. The respondents were picked as they got out from the showroom. The researcher and two assistants distributed the questionnaire personally by approaching the consumers who went to the selected showrooms and asked them to be a respondent. Following the procedures of systematic sampling (Hardon, Hodgkin,& Fresle, 2004), every third consumer who came out from the selected showroom was approached. The questionnaire was distributed for more than one month in different showrooms every day, starting from 25th May till 10th July 2015 between 9am to 8pm on weekdays and 10am to 6pm on weekends. Once the number of questionnaires to be distributed as shown in Table 3.12 was achieved in one showroom, the researcher and her assistants moved to the next showroom.

Accompanying the questionnaire was a cover letter from the researcher requesting a prompt response and research contract and promising complete anonymity. All the respondents were given sufficient time to complete the questionnaire and return the completed questionnaire to the researcher as soon as they finish. This is to reduce the rate of non-returned questionnaires. The questionnaire is available in Appendix A.

3.8 Pilot Study

A pilot study was conducted using a convenience sample with 30 drivers from a few residential areas in South Klang, Selangor. The pilot study was carried out to decide the actual instrument to be utilized in this study. The researcher sat with the respondents while they completed the questionnaire to check the ease of completion, identify difficulties in wording and to answer the respondents' queries. The reliability test for each variable's items was calculated using the pilot study data.

Reliability test was carried out to test the internal consistency of the scales using Cronbach's Alpha reliability coefficient. Reliability ranging from .755 to .905 is generally sufficient for research purposes (Nunnally, 1978), so the scales can be regarded as highly reliable (refer Table 3.13). During the pilot study, several problems were identified, such as the questionnaire's content, understanding of items and time taken.

Each respondent took approximately 20 minutes to complete the entire questionnaire. The final version of the questionnaire is 10 pages as attached in Appendix A.

Table 3.13
Reliability Coefficient for Multiple Items in Pilot Study (n=30)

Variable	**alpha (α)**
Hybrid car purchase intention	.755
Consumers' attitude toward the hybrid car	.863
Brand preference	.791
Functional value	.760
Symbolic value	.805
Emotional value	.905
Novelty value	.791
Conditional value	.766

3.9 Data Analysis

According to Hair, Black, Babin, and Anderson (2010), Structural Equation Modeling (SEM) is a combination of statistical modelling that examines the relationship between latent constructs. This study used SEM as the analysis method due to the complexity of the model. Additionally, there is a need for analysis of

mediating and moderating effects. At the same time, SEM is also used to analyse causal relationships between latent variables. These relationships explain changes in variables called exogenous constructs that affect other variables called endogenous constructs.

During the selection of a research methodology, the SEM is one of the criteria to be considered, particularly in a study of issues that are connected to social and behavioral sciences (Baumgartner & Homburg, 1996). The two major functions of SEM are: (i) the measurement (i.e., how the reliability and validity of conditions are met, what are the things that need to be measured and how to measure them); and (ii) causal relationships among variables and the explanation due to the complexity of the variable and the variable are unobserved (Hair et al., 2010).

3.9.1 Descriptive Analysis

Data analysis was done by employing a combination of descriptive and inferential statistics. Descriptive analysis was done using SPSS version 21 which tries to explain the general understanding about the profile of respondents by summarizing the data, by offering various kinds of tabular presentation and attempting to describe the data by showing the frequency of occurrence of various outcomes (Agresti & Finlay, 2009).

SEM was chosen for inferential analysis to make predictions from the data due to several reasons. First of all, it is because SEM studies all equations simultaneously and then tries to detect the extent and direction of relationships among the variables.

Secondly, it takes into account the measurement errors. Thirdly, it can facilitate the modelling of complex models. Last, but not least, it is supported by Hair et al. (2010) for highest precision to date. Therefore, this study resorted to conducting inferential analysis using variance-based SEM through SmartPLS 2.0 software developed by Ringle, Wende, and Will (2005). SmartPLS 2.0 has its own strengths as it can easily analyze different kinds of measures and it is free of any assumption.

3.9.2 Structural Equation Modeling

The basic goal of SEM is to describe the configuration of a chain of inter-linked dependent interactions at the same time among latent or unobserved variables, wherein each of them is measured by observed variables (Hair et al., 2010; Schumacker & Lomax, 2010). According to Schumacker and Lomax (2012), SEM uses various types of models to describe the relationships among observed variables, with the primary goal of providing a quantitative test of a theoretical model hypothesized by the researcher. SEM is regarded as a confirmatory technique instead of an exploratory technique.

In addition to analyzing latent constructs, SEM also seeks to facilitate other kinds of investigation, which include variance and covariance estimation, linear regression, hypothesis testing and confirmatory factor analysis (CFA) (Jöreskog & Sörbom, 1996). According to Hair et al. (2010); and Kline (2005), SEM is capable of measuring uni-dimensionality and simultaneously measuring the reliability and validity. In addition, SEM provides overall assessment of the model's fitness at the same time testing of the individual parameters, and that is why it is the most

appropriate model for the data collected for this study. As such, this study relied on SEM and CFA.

There are two approaches to SEM, namely covariance-based SEM (CBSEM) and variance-based SEM (VBSEM) (Chin, 1998) and the differences between the two approaches are presented in Table 3.14.

Table 3.14
Comparison of covariance-based SEM and variance-based SEM (PLS)

Criterion	**Covariance-based SEM**	**Variance-based SEM (PLS)**
Objective	Parameter-oriented	Prediction-oriented
Approach	Covariance	Variance
Assumption	Parametric	Non-parametric
Implication	Optimal for parameter estimation	Optimal for prediction
Parameter estimates	Indeterminate	Explicitly-estimated
Model complexity	Small to moderate complexity	Large complexity
Sample size	200-800	Minimum 20-100

3.10 Steps of Partial Least Squares (PLS) Analysis

PLS analysis is divided into two stages. The first stage is the measurement model and the second stage is the structural model. The measurement model stage involves the assessment of validity and reliability of the items for each variable; whereas the structural model stage involves the assessment of relationships between the latent constructs where the hypotheses formed in this study are tested.

Before carrying out the first stage, SmartPLS cannot take natural excel file or import data directly from SPSS; the file used in SmartPLS must be in .csv format. Therefore,

the .csv file was extracted from SPSS after the descriptive analysis. The first stage was to analyse the convergent validity and discriminant validity which are discussed in the following section followed by the structural model.

3.10.1 Convergent Validity

Convergent validity refers to the degree to which the correlation between the measures within the same construct is higher than in other construct (Hair et al., 2014). To evaluate convergent validity, an assessment of measurement model includes factor loading, composite reliability and average variance extracted (AVE) (Hair et al., 2014). The first criterion is to look at the factor loading. According to Fornell and Larcker (1981), each item's loading greater than .70 is considered adequate. Hair et al. (2014) suggest that items with loadings below .4 should be removed while loadings above .7 are acceptable. Items with loadings between .4 and .7 should be considered for removal if the deletion could lead to an increase of reliability and AVE.

Next, is to test the internal reliability consistency. Composite reliability shows the degree to which a set of items consistently indicate the latent construct (Hair et al., 2010). According to Hair et al. (2014), in exploratory research, composite reliability values of .60 to .70 are acceptable whereas values between .70 and .90 are considered satisfactory.

To establish convergent validity of the outer model, the values of AVE were examined. The AVE measures the amount of variance that is captured by the

construct relative to the amount of variance due to measurement errors (Fornell & Larcker, 1981). The AVE values must be more than or equal to 0.50 and this indicates that on average, half of the variance of its indicators are explained by the construct (Hair et al., 2014). According to Barclay, Higgins, and Thompson (1995), the value of AVE of at least 0.5 has an adequate convergence in measuring the concerned construct. If the values of AVE are less than 0.50, then the convergent validity of the construct is questionable.

3.10.2 Discriminant Validity

Discriminant validity refers to the degree to which a construct is truly different from other constructs by empirical standards (Hair et al., 2014). Therefore, it is necessary to perform discriminant validity to ensure the uniqueness of each construct which is not represented by other constructs in the model. This study used Fornell-Larcker's method and cross-loading to assess discriminant validity.

The Fornell-Lacker's method compares between the square root of AVE values and the latent variable correlations (Hair et al., 2014). In other words, the square root of the AVE for all the constructs is placed at the diagonal elements of the correlation matrix. Cross-loading is another method where the loadings of indicators should load more on its own construct than the other constructs.

The discriminant validity of the outer model is confirmed if the diagonal elements are higher than the other elements of the row and column in which they are located.

It can be assumed that the obtained results pertaining to the hypotheses testing should be valid and reliable by establishing the construct validity of the outer model.

3.10.3 Path Coefficient Estimation

A PLS path model consists of two models: a measurement model and structural model also referred as outer model and inner model in the context of PLS-SEM (Hair et al., 2014). A measurement model links the manifest variables (MVs) to their latent variables (LVs); whereas structural model relates endogenous latent variables to other latent variables. The measurement model displays the relationships between constructs and the indicator variables; while the structural model displays the relationships between the constructs. Standardized path coefficient is used to test the hypothesized relationships among the constructs.

3.10.4 Structural Path Significance in Bootstrapping

PLS-SEM relies on a non-parametric bootstrap procedure to test the significance of path coefficient (Hair et al., 2014). A procedure where T-statistics is generated for significance testing of both the inner and outer models is called bootstrapping. In bootstrapping, a large number of subsamples are taken from the original sample with replacement (Hair et al., 2014) to give bootstrap standard errors which will provide approximate T-values for significance testing of the structural path.

This study employed bootstrapping technique to infer whether the path coefficients are statistically significant or not. To run bootstrapping, 5,000 subsamples were used. By using bootstrapping technique, t-values accompanying each path coefficient were generated followed by the p-values. P-values is calculated using a function of TDIST(t-value;df;tails) in Microsoft Excel.

3.10.5 Prediction Relevance of the Model

In evaluating the magnitude of R^2 values as an aspect of predictive relevance, Stone-Geisser's Q^2 value was also examined for predictive accuracy (Geisser, 1974; and Stone, 1974 as cited in Hair et al., 2014). R^2 values of the endogenous variable are well-known in the literature of multivariate data analysis which accounts for the variance of a particular variable that is explained by the predictor variables.

The Q^2 value can be obtained by using the blindfolding procedure. Blindfolding is a sample reuse technique which deletes certain datapoints and considers the datapoints as missing values in the endogenous construct's indicators and estimates the parameters. After that, the estimated parameters are used to reconstruct the raw data that were assumed to be missing previously.

There are two different approaches to calculate the Q^2 value. However, the cross-validated redundancy approach fits PLS-SEM approach perfectly (Hair et al., 2014). Cross-validated redundancy uses PLS-SEM estimates for both structural model and measurement model for data prediction. Therefore, this study used cross-validated redundancy as a measure of Q^2. The model is considered to have predictive validity

if the Q^2 values are larger than 0 (Hair et al., 2014). In contrast, if the Q^2 values are equal to or lower than 0, the predictive relevance of the model cannot be concluded (Hair et al., 2014). The Q^2 values estimated represent a measure of how well the path model predicts the originally observed value (Hair et al., 2014).

3.11 Chapter Summary

This chapter discusses the research design which is based on the quantitative research design. The operationalized definitions and measurements for each variable are discussed in this chapter as well. Proportionate stratified sampling is used to determine the sample size; the intercept method is utilized for data collection. The chapter also deals with the validity issues through the use of pilot test. It also discusses the population, sample and data collection procedures. In addition, the statistical tools used to analyze the data are discussed in this chapter.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.1 Chapter Overview

The previous chapter provides an explanation about how this study was carried out. This chapter reports the results of data analysis. Firstly, the chapter begins with the survey response rate and the distribution of demographic variables (gender, age, income, occupation and education level) for all respondents. Secondly, this study discusses the descriptive analysis of the variables. After that, normality test and linearity test were carried out. This study has employed a two-stage approach, i.e. measurement model and structural model. Outer model or measurement model was first carried out to examine the convergent validity and discriminant validity. Thereafter, structural model or inner model was examined with a five-step assessment where the hypotheses were tested in the first step. Then, the mediating effect of consumers' attitude toward the hybrid car and moderating effect of brand preference are reported.

4.2 Response Rate

For data collection purposes, 404 sets of questionnaires were distributed to consumers in the Klang Valley. Out of these 404 questionnaires, 352 sets were returned. As the study concentrated on non-hybrid car consumers, 46 respondents were found to be hybrid car consumers. Therefore, 306 valid questionnaires were included in this study which gave a response rate of 75.7 percent. The sample size

obtained is adequate to run the analysis by using PLS (as mentioned earlier, the minimum sample size required is 228 for an analysis of seven arrows pointing at one construct). Table 4.1 illustrates the response rate and usable questionnaires for this study. This response rate is comparable to previous studies in the automotive industry, specifically in the hybrid car industry. The response rate of similar studies was 89 percent (Hong et al. 2013); and 83 percent (Jamaliah et al., 2013).

Table 4.1
Summary of the Total Questionnaires and the Response Rate

The sample size of the study	**404**
Returned questionnaires	352
Returned and usable questionnaires	306
Returned and unusable questionnaires	46
Non-returned questionnaires	52
Response rate	87.1%
Usable response rate	75.7%

4.3 Demographic Profile of Respondents

This section shows the profile of respondents who participated in this study. The purpose of collecting demographic profile of each respondent is to provide an insight into the subjects and assist in interpreting the results of analysis. Table 4.2 presents the details of demographic profile of respondents.

This study comprised 159 (52 percent) female respondents and 147 (48 percent) male respondents. Age was an open-ended question whereby respondents had to fill up their actual age. Thereafter, the age group was categorized according to the generation. According to Schroer (2004), baby boomers were born between 1946 and

1965; individuals born between 1966 and 1976 are identified as Generation X; and Generation Y or Millennium refer to individuals born between 1977 and 1994. Therefore, the age group for this study was categorized as 21 to 38 years old; 39 to 49 years old; and 50 years old and above. Majority of the respondents are at the age of 21 to 38 years (73.5 percent), followed by the age groups of 39 to 49 years old; and above 50 years old, making up of 19.9 percent and 6.6 percent of the respondents, respectively. In this study, the oldest respondent is 69 years old and the youngest respondent is 21 years old.

In terms of monthly income, 131 (42.8 percent) respondents earn between RM 2,001 to RM 4,000; followed by 108 (35.3 percent) respondents who earn between RM 4,001 to RM 6,000; 42 (13.7 percent) respondents who earn more than RM 6,001; and lastly, 25 (8.2 percent) respondents earning below RM 2,000. Respondents were also asked about their employment sector, with most of them being from the private sector (74.2 percent); followed by self-employment (20.3 percent); and government sector (3.6 percent). Student and retired respondents comprised 1.3 percent and 0.7 percent, respectively.

In terms of qualifications, 121 respondents are Bachelor's degree holders; 88 respondents are Diploma holders; 54 respondents are secondary school certificate holders; 40 respondents are Master's degree holders; two respondents are primary school certificate holders; and one respondent is a PhD holder. Apart from that, the top three preferred brands chosen by respondents are Toyota (29.1 percent); Honda (23.9 percent); and Lexus (13.1 percent). Respondents also indicated AUDI, Nissan,

BMW, Porsche and Mercedes-Benz, making up of 12.1 percent, 10.5 percent, 6.9 percent, 3.9 percent and .7 percent, respectively.

Table 4.2
Demographic Profile of Respondents (n=306)

Variable	**Category**	**Frequency**	**Percentage**
Gender	Male	147	48.0
	Female	159	52.0
Age	21-38	225	73.5
	39-49	61	19.9
	50 and above	20	6.5
Monthly Income	Less than RM 2,000	25	8.2
	RM 2,001 – RM 4,000	131	42.8
	RM 4,001 – RM 6,000	108	35.3
	RM 6,001 and above	42	13.7
Occupation	Government sector	11	3.6
	Private sector	227	74.2
	Self-employed	62	20.3
	Student	4	1.3
	Retired	2	0.7
Education level	Primary school	2	0.7
	Secondary school	54	17.6
	Diploma	88	28.8
	Bachelor's Degree	121	39.5
	Master's Degree	40	13.1
	Doctorate Degree / PhD	1	0.3
Brand Preference	Toyota	89	29.1
	Honda	73	23.9
	Nissan	32	10.5
	Lexus	40	13.1
	AUDI	37	12.1
	BMW	21	6.9
	Porsche	12	3.9
	Mercedes-Benz	2	0.7

4.4 Data Coding and Data Entry

According to Hair et al. (2009), the questionnaire instruments were grouped and assigned values. Items in the questionnaire were coded by using identifiable codes comprising alpha numerals. Intention to purchase a hybrid car was coded as Int. For example, the first question for intention to purchase a hybrid car was coded as Int_1, the following question was coded as Int_2 and this sequence was followed. Consumers' attitude toward the hybrid car was coded as CA; while brand preference was coded as BP. Likewise, functional value, symbolic value, emotional value, novelty value and conditional value were coded as FV, SV, EV, NV and CV, respectively. After completion of data coding, all the responses were ready and entered accordingly into SPSS version 21.

4.5 Data Screening and Cleaning

After data were entered into SPSS 21, the researcher next carried out data screening and cleaning. According to Pallant (2005), this stage involves detectionof errors in the data collected in the form of missing and out of range values. Out of range means the values entered into SPSS 21 are not within the scale used in this study. For example, this study used a seven-point Likert scale; therefore, the values should be within one to seven. The summary of case processing is where the minimum, maximum, valid and missing value of each items in this study are indicated in Appendix E. It can be concluded that there is no missing and out of range value in this study.

4.6 Descriptive Statistics Analysis

Descriptive analysis provides researchers a detailed idea about the respondents' responses for each construct in the study. A descriptive analysis was conducted to describe and summarize the characteristics of each construct, namely intention to purchase a hybrid car, consumers' attitude toward the hybrid car, brand preference, functional value, symbolic value, emotional value, novelty value and conditional value, through mean and standard deviation. Table 4.3 illustrates the findings of descriptive statistics of the constructs in this study.

The minimum and maximum value represents the Likert scale used in this study. The minimum value of all the constructs is 1.00 and maximum value is 7.00. Most of the variables have the mean above the average range from 5.1118 to 5.5795; and the standard deviation ranges from 0.7973 to 0.9770. The score of standard deviation implies that there is variability in answering the questions among the respondents. The minimum and maximum responses of each construct are also presented in Table 4.3. All the constructs are above the acceptance level of implementation and therefore, are at a satisfactory level. Besides, the mean has shows that the level of intention to purchase hybrid car and consumers' attitude toward the hybrid car. Both are above the average level. Therefore, it can be conclude that the level of intention to purchase hybrid car and consumers' attitude toward the hybrid car are tends to be high.

Table 4.3
Descriptive Statistics of the Constructs

Construct	Minimum	Maximum	Mean	Std. Deviation
Intention to purchase a hybrid car	2.00	7.00	5.1187	.96187
Consumers' attitude toward the hybrid car	1.18	7.00	5.3366	.83822
Brand preference	2.29	7.00	5.5056	.79729
Functional value	1.40	7.00	5.1118	.89761
Symbolic value	1.67	7.00	5.1748	.82751
Emotional value	1.25	7.00	5.1266	.92644
Novelty value	2.17	7.00	5.5795	.97698
Conditional value	1.00	7.00	5.3183	.95512

Although the comparison between demographic variables (i.e., gender, age, monthly income, occupation and education level) and intention to purchase a hybrid car is not included in the research objectives, however the analysis is meaningful to provide a better understanding about the characteristics of future hybrid car buyers. Hence, independent t-test and one-way ANOVA were carried out. The results are shown in Table 4.4 to Table 4.5, respectively.

Table 4.4
Independent Samples T-Test between Gender and Intention to Purchase a Hybrid Car

Gender	Mean	F-value	Significance
Male	5.0601	.755	0.306
Female	5.1730		

Table 4.5
One-Way ANOVA between Demographic Profile and Intention to Purchase a Hybrid Car

Demography	**Category**	**Mean**	**F-value**	**Significance**
Age Group	21-38	5.1830	6.873	0.001
	39-49	5.1284		
	50 and above	4.3667		
Monthly Income	Less than RM 2,000	5.0800	.841	.472
	RM 2,001 - RM 4,000	5.0611		
	RM 4,001 - RM 6,000	5.1157		
	RM 6,001 and above	5.3294		
Employment Sector	Government sector	5.4242	2.104	.080
	Private sector	5.1476		
	Self-employed	4.9946		
	Student	5.3750		
	Retirees	3.5000		
Qualification Level	Primary School	5.4167	.279	.925
	Secondary School	5.1080		
	Diploma	5.0417		
	Bachelor's Degree	5.1350		
	Master's Degree	5.2375		
	Doctorate Degree / PhD	5.1667		

Based on Table 4.4 and Table 4.5, among the demographic variables, only age group is found to have significant differences with intention to purchase a hybrid car. Generation X (39 - 49 years old) and generation Y (21 - 38 years old) are more likely to purchase a hybrid car. This might be because they are the more innovative groups that are willing to take higher risk to try a new product. This is consistent with Punitha and Azmawani (2011) finding.

4.7 The Rationale behind Choosing PLS-SEM

The purpose of this study is to examine the relationships among latent variables. Hence, SEM is the appropriate method for multiple relationships of dependent and independent variables (Hair et al., 2010). There are two techniques for latent analysis, namely covariance-based SEM (CBSEM) and variance-based SEM (VBSEM). However, to choose the most appropriate technique, normality test is needed as CBSEM is appropriate for normally distributed data while VB SEM is able to serve non-normally distributed data.

4.7.1 Assumption of Normality

Normality is used to describe a symmetrical, bell-shaped curve that has the highest frequency of scores towards extremes in the small and middle frequencies (Pallant, 2005). The assessment of the normal distribution of scores for independent and dependent variables can be obtained by accessing skewness and kurtosis values as suggested by Pallant (2005). The scale and measures can be either skewed positively or negatively, especially in social sciences (Pallant, 2005). Kurtosis is also a score to measure the distribution that represents the degree to which the observations gather around the central mean.

Kline (1998) suggests a cut-off point for skewness value to be within the range of -3 and +3. On the other hand, Coakes and Steed (2003) establish the range for kurtosis value between -3 and +3. The skewness value for this study fell within the acceptable range proposed by Kline (1998), which is not accepted by Hair et al. (2010). This is

because Hair et al. (2010) suggest the skewness value must be within -1 and +1. There are some kurtosis values (i.e., symbolic value and conditional value) in this study not within the range of -3 and +3 as shown in Table 4.6.

Based on the results, some skewness and kurtosis values deviate from being normally distributed. Therefore, this study employed PLS-SEM. This is because PLS does not require normally-distributed input data.

Table 4.6
Results of Skweness and Kurtusis for Normality Test

Factor	Skewness		Kurtosis	
	Statistic	**Std. Error**	**Statistic**	**Std. Error**
Intention to purchase a hybrid car	-.741	.139	.412	.278
Consumers' attitude toward the hybrid car	-1.130	.139	2.359	.278
Brand preference	-.567	.139	.496	.278
Functional value	-.722	.139	.917	.278
Symbolic value	-1.294	.139	3.201	.278
Emotional value	-.853	.139	1.628	.278
Novelty value	-1.350	.139	2.626	.278
Conditional value	-1.296	.139	3.250	.278

4.8 Model Specification

The original study model included 65 reflective measurement indicators (MVs or items) for eight variables (LVs or constructs), including functional value, symbolic value, emotional value, novelty value, conditional value and consumers' attitude toward the hybrid car as independent variables and intention to purchase a hybrid car as dependent variable. Consumers' attitude toward the hybrid car was hypothesized as mediator; while brand preference as moderator moderating the relationship

between consumers' attitude toward the hybrid car and intention to purchase a hybrid car. Figure 4.1 shows the original research model of this study.

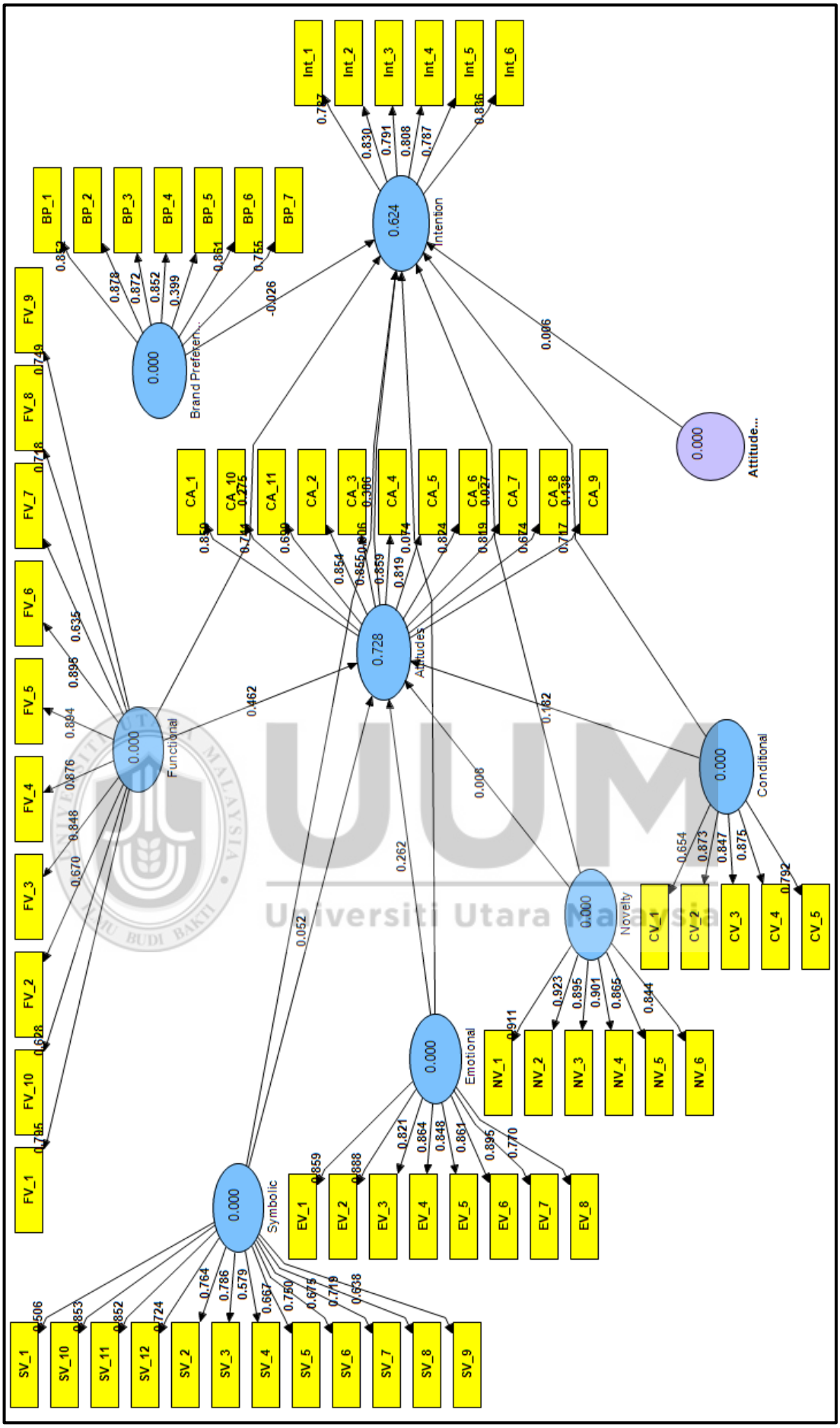

Figure 4.1

The Research Model

4.9 Measurement Model

SmartPLS 2.0 was used as the tool for PLS-SEM. As mentioned earlier, this study follows a two-step approach: measurement model (outer model); and structural model (inner model). Before testing the hypotheses, the measurement model also called outer model was accessed first. The measurement model specifies the relationship between the constructs. According to Hair et al. (2014), two types of validity are assessed under the measurement model. There are convergent validity and discriminant validity. While examine convergent validity, reliability analysis is included as explained in the next section.

4.9.1 Convergent Validity and Reliability

Convergent validity is the degree to which the measure correlates positively with other measures of the same construct (Hair et al., 2014). Convergent validity and reliability are assessed as the first step in the measurement model. To assess convergent validity, factor loadings and AVE are assessed; while to examine the reliability of the construct, composite reliability is considered. Indicator reliability refers to the outer loadings of items. According to Hair et al. (2014), loadings below 0.4 should be eliminated while above 0.7 are acceptable. Loadings in between 0.4 and 0.7 should be considered for removal from the scale if the deletion leads to an increase of composite reliability and AVE.

AVE is measured to confirm the convergent validity of the outer model. AVE is defined as the average variance extracted among a particular construct's items in

relation to the variance shared with the errors of measurement. In other words, AVE values show how much the construct explains the variance of its indicators or items. The recommended AVE value should be above 0.5, indicating that the constructs explain more than half of the variance of its indicators (Hair et al., 2014).

The last aspect to establish convergent validity is composite reliability (CR). CR refers to the degree to which a set of items consistently indicate the latent construct (Hair et al. 2014). Higher values of CR indicate higher levels of reliability. According to Hair et al. (2014), the recommended value for CR is above 0.7.

Based on Table 4.7, several items (BP_5, CA_8, CA_9, CA_10, CA_11, CV_1, FV_7, FV_10, SV_1, SV_4, SV_5 and SV_9) were deleted due of low loading (loading below 0.7) in their respective constructs. After deletion, the loading for each item in the construct was above 0.7. The AVE values ranged between 0.615 and 0.792, which are above the recommended values, indicating a good level of construct validity of the measures used (Barclay et al., 1995). Lastly, the CR ranged between 0.918 and 0.958 which exceeds the recommended value of 0.7 as mentioned above. Therefore, the results confirm the convergent validity of the measurement model or outer model of this study.

Table 4.7
Convergent Validity Analysis

Construct	Item	Loading	AVE	CR
Intention to purchase a hybrid car	Int_1	0.784	0.651	0.918
	Int_2	0.833		
	Int_3	0.793		
	Int_4	0.804		
	Int_5	0.788		
	Int_6	0.836		
Consumers' attitude toward the hybrid car	CA_1	0.889	0.756	0.956
	CA_2	0.898		
	CA_3	0.899		
	CA_4	0.873		
	CA_5	0.857		
	CA_6	0.852		
	CA_7	0.819		
Brand Preference	BP_1	0.856	0.720	0.939
	BP_2	0.883		
	BP_3	0.880		
	BP_4	0.852		
	BP_6	0.863		
	BP_7	0.750		
Functional value	FV_1	0.785	0.671	0.942
	FV_2	0.710		
	FV_3	0.875		
	FV_4	0.903		
	FV_5	0.892		
	FV_6	0.898		
	FV_8	0.755		
	FV_9	0.704		
Symbolic value	SV_2	0.781	0.615	0.927
	SV_3	0.807		
	SV_6	0.766		
	SV_7	0.706		
	SV_8	0.743		
	SV_10	0.860		
	SV_11	0.868		

Table 4.7 (Continued)

Construct	Item	Loading	AVE	CR
Symbolic value	SV_12	0.726		
Emotional value	EV_1	0.860	0.725	0.955
	EV_2	0.889		
	EV_3	0.821		
	EV_4	0.865		
	EV_5	0.847		
	EV_6	0.860		
	EV_7	0.894		
	EV_8	0.768		
Novelty value	NV_1	0.912	0.792	0.958
	NV_2	0.924		
	NV_3	0.896		
	NV_4	0.901		
	NV_5	0.863		
	NV_6	0.842		
Conditional value	CV_2	0.887	0.747	0.922
	CV_3	0.877		
	CV_4	0.908		
	CV_5	0.779		

Note:
AVE, Average Variance Extracted = $\Sigma(\text{factor loading})^2/\{\Sigma(\text{factor loading})^2+\Sigma(\text{variance of error})\}$;
CR, Composite Reliability = $(\Sigma \text{ factor loading})^2/\{(\Sigma \text{ factor loading})^2)+\Sigma(\text{variance of error})\}$

4.9.2 Discriminant Validity

Next, discriminant validity was assessed. Discriminant validity is the degree to which a construct is truly different from other constructs. Therefore, establishing discriminant validity is mandatory to ensure the uniqueness of each construct and to avoid overlapping constructs where the phenomena is not represented by other constructs in the model (Hair et al., 2014). In addition, items of each construct should load more on its own construct in the model, and the average variance shared between each construct and its measures should be greater than the variance shared

between the construct and other constructs (Fornell & Larcker, 1981; Compeau, Higgins,& Huff, 1999). Two measures of discriminant validity are proposed by Hair et al. (2014). First, is examining discriminant validity through cross-loadings of the indicators. Fornell-Larcker's criterion is the second measure for discriminant validity.

To examine discriminant validity by cross-loading factors, the loading for all the items designed to measure a particular construct should be higher on their respective construct than other constructs. As shown in Table 4.8, all the items' loadings in a respective construct are higher than the other constructs.

Fornell-Larcker's criterion was used to measure discriminant validity. This method is the most conservative approach which compares the square root of the AVE with the latent variable correlations (Hair et al., 2014). As shown in Table 4.9, the values in the diagonal are higher than the other values in the same row and column; this indicates that the measurements have discriminant validity.

Table 4.8
Cross-Loadings

Items	Intention to purchase a hybrid car	Consumers' attitude toward the hybrid car	Brand preference	Functional value	Symbolic value	Emotional value	Novelty value	Conditional value
Int_1	**0.784**	0.532	0.415	0.46	0.403	0.473	0.461	0.455
Int_2	**0.833**	0.622	0.325	0.608	0.529	0.556	0.439	0.383
Int_3	**0.793**	0.512	0.361	0.516	0.454	0.489	0.426	0.407
Int_4	**0.804**	0.518	0.444	0.504	0.435	0.46	0.463	0.438
Int_5	**0.788**	0.701	0.411	0.664	0.598	0.575	0.436	0.499
Int_6	**0.836**	0.722	0.436	0.668	0.601	0.601	0.527	0.606
CA_1	0.714	**0.889**	0.477	0.703	0.588	0.636	0.596	0.572
CA_2	0.693	**0.898**	0.457	0.69	0.612	0.653	0.503	0.562
CA_3	0.677	**0.899**	0.491	0.758	0.593	0.625	0.484	0.48
CA_4	0.695	**0.873**	0.485	0.691	0.608	0.672	0.512	0.517
CA_5	0.634	**0.857**	0.466	0.693	0.628	0.648	0.495	0.509

Table 4.8 (Continued)

CA_6	0.611	**0.852**	0.516	0.734	0.668	0.681	0.465	0.528
CA_7	0.581	**0.819**	0.47	0.651	0.619	0.659	0.488	0.536
BP_1	0.391	0.477	**0.856**	0.476	0.458	0.405	0.468	0.402
BP_2	0.447	0.487	**0.883**	0.486	0.459	0.423	0.481	0.455
BP_3	0.45	0.487	**0.88**	0.477	0.411	0.427	0.473	0.462
BP_4	0.393	0.443	**0.852**	0.475	0.494	0.412	0.462	0.432
BP_6	0.472	0.493	**0.863**	0.518	0.446	0.467	0.467	0.473
BP_7	0.346	0.418	**0.75**	0.448	0.519	0.459	0.339	0.422
FV_1	0.529	0.666	0.51	**0.785**	0.616	0.586	0.523	0.426
FV_2	0.501	0.482	0.283	**0.71**	0.501	0.473	0.328	0.247
FV_3	0.606	0.714	0.451	**0.875**	0.63	0.596	0.452	0.406
FV_4	0.654	0.769	0.483	**0.903**	0.68	0.651	0.514	0.447
FV_5	0.674	0.754	0.543	**0.892**	0.698	0.672	0.61	0.561
FV_6	0.632	0.749	0.516	**0.898**	0.697	0.682	0.546	0.517
FV_8	0.558	0.556	0.355	**0.755**	0.496	0.492	0.334	0.259
FV_9	0.527	0.541	0.541	**0.704**	0.613	0.517	0.549	0.479
SV_2	0.533	0.588	0.5	0.695	**0.781**	0.576	0.657	0.486
SV_3	0.529	0.597	0.494	0.672	**0.807**	0.609	0.554	0.474
SV_6	0.451	0.48	0.331	0.498	**0.766**	0.556	0.389	0.416
SV_7	0.456	0.448	0.263	0.498	**0.706**	0.467	0.317	0.338
SV_8	0.463	0.495	0.373	0.533	**0.743**	0.555	0.352	0.378
SV_10	0.558	0.639	0.488	0.651	**0.86**	0.676	0.578	0.535
SV_11	0.552	0.642	0.476	0.649	**0.868**	0.666	0.569	0.534
SV_12	0.419	0.513	0.428	0.508	**0.726**	0.591	0.478	0.424
EV_1	0.572	0.675	0.458	0.652	0.689	**0.86**	0.541	0.526
EV_2	0.601	0.701	0.474	0.667	0.709	**0.889**	0.617	0.588
EV_3	0.534	0.603	0.402	0.585	0.618	**0.821**	0.455	0.441
EV_4	0.572	0.673	0.476	0.658	0.625	**0.865**	0.506	0.474
EV_5	0.569	0.626	0.428	0.616	0.623	**0.847**	0.553	0.519
EV_6	0.597	0.652	0.436	0.641	0.657	**0.86**	0.596	0.534
EV_7	0.558	0.633	0.441	0.591	0.638	**0.894**	0.545	0.567
EV_8	0.475	0.535	0.328	0.459	0.553	**0.768**	0.452	0.537
NV_1	0.517	0.532	0.444	0.553	0.546	0.566	**0.912**	0.574
NV_2	0.505	0.509	0.445	0.526	0.542	0.55	**0.924**	0.551
NV_3	0.568	0.558	0.465	0.584	0.636	0.617	**0.896**	0.58
NV_4	0.543	0.549	0.459	0.579	0.589	0.595	**0.901**	0.622
NV_5	0.469	0.505	0.51	0.474	0.527	0.516	**0.863**	0.631
NV_6	0.428	0.445	0.53	0.434	0.524	0.499	**0.842**	0.617
CV_2	0.457	0.513	0.447	0.403	0.457	0.477	0.595	**0.887**
CV_3	0.428	0.451	0.415	0.39	0.435	0.461	0.564	**0.877**
CV_4	0.479	0.486	0.46	0.398	0.452	0.5	0.586	**0.908**
CV_5	0.607	0.608	0.457	0.553	0.604	0.635	0.549	**0.779**

Table 4.9
Discriminant Validity Analysis

Construct	Intention to purchase a hybrid car	Consumers' attitude toward the hybrid car	Brand Preference	Functional value	Symbolic value	Emotional value	Novelty value	Conditional value
Intention to purchase a hybrid car	**0.807**							
Consumers' attitude toward the hybrid car	0.758	**0.87**						
Brand Preference	0.495	0.552	**0.849**					
Functional value	0.718	0.808	0.566	**0.819**				
Symbolic value	0.635	0.708	0.542	0.757	**0.784**			
Emotional value	0.659	0.751	0.508	0.719	0.752	**0.852**		
Novelty value	0.571	0.582	0.531	0.594	0.632	0.629	**0.89**	
Conditional value	0.584	0.608	0.52	0.518	0.578	0.614	0.667	**0.864**

Note:Diagonals represent the square root of the average variance extracted while the other entries represent the correlations

4.10 Structural Model

After confirming the constructs' measures are reliable and valid, the second step was to assess the structural model. In other words, hypotheses relationship between the construct was examined as well as measures of predictive capabilities.

4.10.1 Multicollinearity Test

The first step in structural model is to examine the structural model's multicollinearity. In SmartPLS 2.0, tolerance and variance inflation factor (VIF) values are not provided; however, SPSS presents multicollinearity statistics in its linear regression modules. Therefore, SPSS was used to extract the multicollinearity statistics.

Multicollinearity test is highly recommended before initiating the proposed model testing (Hair et al., 2010). Multicollinearity test shows the existence of relapse in the correlation matrix where the independent variables are highly correlated with each other. The existence of multicollinearity can be detected when the correlation value is more than 0.90 (Hair et al., 2010). From the Table 4.10, it is clear that all the correlation values are below 0.90; therefore, there is no high correlation among the variables in this study.

The two measures to test multicollinearity among the independent variables are VIF and tolerance value. These measures indicate the degree to which each independent variable is explained by other independent variables (Hair et al., 2009).

Table 4.10
Correlation of the Variables

	Intention to purchase a hybrid car	**Consumers' attitude toward the hybrid car**	**Brand preference**	**Functional value**	**Symbolic value**	**Emotional value**	**Novelty value**	**Conditional value**
Intention to purchase a hybrid car	**1**							
Consumers' attitude toward the hybrid car	0.732	**1**						
Brand preference	0.474	0.575	**1**					
Functional value	0.706	0.780	0.597	**1**				
Symbolic value	0.609	0.694	0.562	0.730	**1**			
Emotional value	0.650	0.750	0.512	0.710	0.723	**1**		
Novelty value	0.564	0.628	0.530	0.636	0.656	0.626	**1**	
Conditional value	0.575	0.644	0.527	0.551	0.623	0.645	0.660	**1**

VIF values indicate how much the variability of the chosen independent variable is explained by other independent variables; whereas tolerance is the inverse of VIF (Hair et al., 2010). The cut-off value for VIF is 10; while tolerance is 0.10. In other words, VIF value lower than 10 or closer to 1.0; and tolerance above 0.10 indicate little or no multicollinearity problem.

Table 4.11 presents the two models highlighting collinearity statistics for all independent variables. The result shows the tolerance values range between 0.289 and 0.567; while VIF values range between 1.764 and 3.460. This indicates that multicollinearity issue does not exist.

Table 4.11
Multicollinearity Test

Model		**Collinearity Statistics**	
		Tolerance	**VIF**
Consumers' attitude to the hybrid car	Intention to purchase a hybrid car	0.286	3.493
Brand preference		0.567	1.764
Functional value		0.292	3.419
Symbolic value		0.342	2.925
Emotional value		0.331	3.024
Novelty value		0.429	2.333
Conditional value		0.430	2.324
Functional value	Consumers' attitude toward the hybrid car	0.378	2.646
Symbolic value		0.347	2.886
Emotional value		0.362	2.760
Novelty value		0.433	2.310
Conditional value		0.463	2.160

4.10.2 Structural Model Path Coefficient

The second step in structural model, i.e., path coefficient was tested by using SmartPLS 2.0 to run the PLS Algorithm. The path coefficient (refer to Figure 4.2) represents the hypothesized relationship between the constructs and its standardized value is between -1 and +1 (Hair et al., 2014). The same authors mention that the estimated path coefficient close to +1 means there is a strong positive relationship between the construct and vice versa.

Standard error was used to determine the significance of coefficient. Bootstrapping technique was used to obtain the standard error value in SmartPLS 2.0 (refer to Figure 4.3). To run bootstrapping, the researcher used 5,000 samples with the 306 cases. The t-values accompanying each path coefficient was generated using bootstrapping as reported in Table 4.12. When the t-value is larger than the critical value in a certain error probability, then the coefficient is considered significant. For two-tailed tests, the critical values are 1.96 at significance level of 0.05 or five percent; while 2.57 for significance level of 0.01 or one percent (Hair et al., 2014). Researchers usually refer to five percent significance level for marketing research and one percent significance level for consumer research studies (Hair et al., 2014). Other than t-value, p-value is also reported which refers to the probability of erroneously rejecting the null hypothesis and it can be calculated by using the formula of TDIST function in Microsoft Excel. The general form for the function is: TDIST(t-value;df;tails), where the degree of freedom (df) refers to the bootstrap cases minus 1, which is 305 in this study, and the tails is 2 as it refers to two-tailed test.

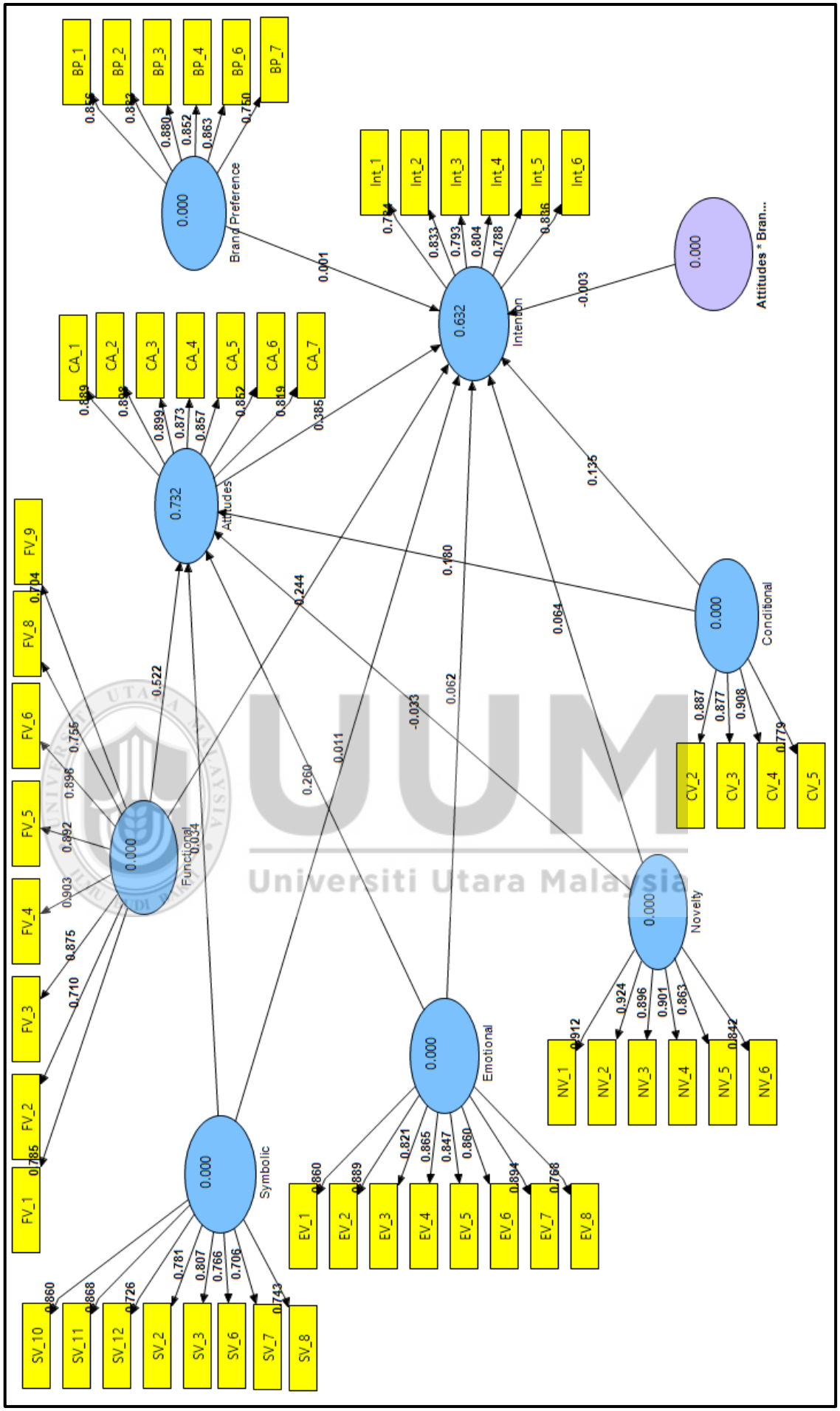

Figure 4.2
Items Loadings, Path Coefficient and R^2 Values

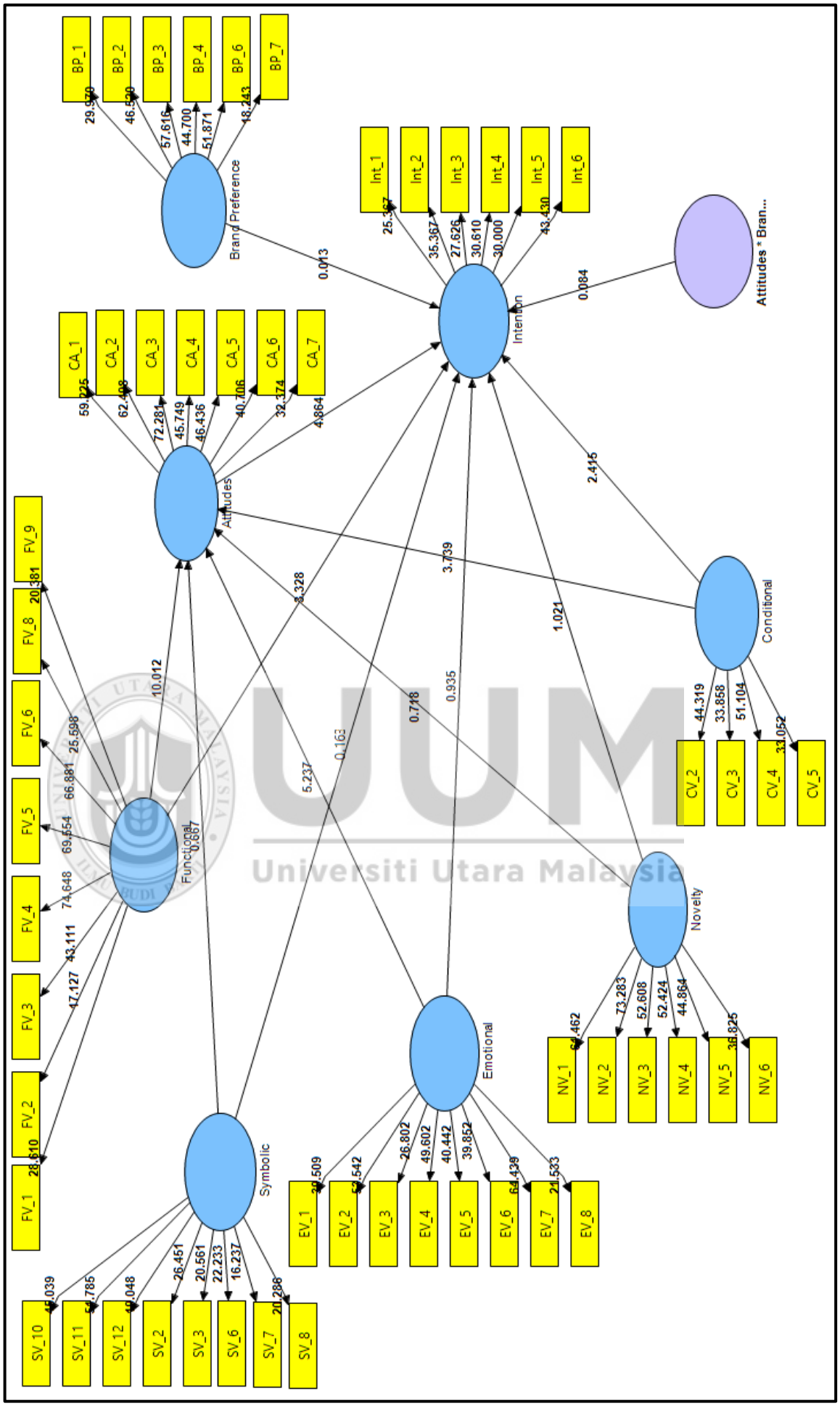

Figure 4.3
Path Model Significance Results (Bootstrapping)

Out of 11 hypotheses tested, six hypotheses are supported while five hypotheses are not supported (as shown in Table 4.12). Results show that consumers' attitude toward the hybrid car has a positive and significant impact on intention to purchase a hybrid car (β=0.385, t=4.963, p<0.01). Therefore, H1 on the effect of consumers' attitude toward the hybrid car on intention to purchase a hybrid car is supported. On the other hand, consumption values have mixed results on intention to purchase a hybrid car. Functional value (β=0.244, t=3.390, p<0.01); and conditional value (β=0.135, t=2.439, p<0.05) have a positively significant effect on intention to purchase a hybrid car; thus, H2 and H6 are supported. In addition, symbolic value (β=0.011, t =0.162, p>0.1); emotional value (β=0.062, t=0.926, p>0.1); and novelty value (β=0.064, t=1.031, p>0.1) have no effect on intention to purchase a hybrid car. Therefore, H3, H4 and H5 are rejected or not supported.

Functional value (β=0.522, t=9.964, p<0.01); emotional value (β=0.260, t=5.218, p<0.01); and conditional value (β=0.180, t=3.691, p<0.01) have a positively significant relationship with consumers' attitude toward the hybrid car. However, symbolic value (β=0.034, t=0.622, p>0.1); and novelty value (β=-0.033, t=0.713, p>0.1) have no effect on consumers' attitude toward the hybrid car. Therefore, H7, H9 and H11 are supported; while the results do not support H8 and H10.

Table 4.12
Path Coefficients and Hypothesis Testing

Hypothesis	Relationship	Path Coefficients	Std. Error	t-value	p-value	Decision
H1	Consumers' attitude toward the hybrid car -> Intention to purchase a hybrid car	0.385	0.08	4.963**	0.000	Supported
H2	Functional value -> Intention to purchase a hybrid car	0.244	0.07	3.390**	0.001	Supported
H3	Symbolic value -> Intention to purchase a hybrid car	0.011	0.07	0.162	0.871	Not Supported
H4	Emotional value -> Intention to purchase a hybrid car	0.062	0.07	0.926	0.355	Not Supported
H5	Novelty value -> Intention to purchase a hybrid car	0.064	0.06	1.031	0.303	Not Supported
H6	Conditional value -> Intention to purchase a hybrid car	0.135	0.06	2.439*	0.015	Supported
H7	Functional value -> Consumers' attitude toward the hybrid car	0.522	0.05	9.964**	0.000	Supported
H8	Symbolic value -> Consumers' attitude toward the hybrid car	0.034	0.05	0.655	0.513	Not Supported
H9	Emotional value -> Consumers' attitude toward the hybrid car	0.260	0.05	5.218**	0.000	Supported

Table 4.12 (Continued)

Hypothesis	Relationship	Path Coefficients	Std. Error	t-value	p-value	Decision
H10	Novelty value -> Consumers' attitude toward the hybrid car	-0.033	0.05	0.713	0.476	Not Supported
H11	Conditional value -> Consumers' attitude toward the hybrid car	0.180	0.05	3.691**	0.000	Supported

Note: **p<.01, *p<.05

4.10.3 Coefficient of Determination

Coefficient of determination or R^2 value is the most common measure used to evaluate the structural model. R^2 value is a measure of the model's predictive accuracy and shows the amount of the variance explained in the endogenous variable by all exogenous variables which are linked to the endogenous variable (Hair et al., 2014). The R^2 value ranges from 0 to 1, where value equal or above 0.75 is considered substantial; .and 0.5 or 0.25, respectively described as moderate or week (Hair et al., 2014).

Based on the results of the path model in Figure 4.2, the R^2 of the endogenous variables, namely intention to purchase a hybrid car and consumers' attitude toward the hybrid car are 0.632 and 0.732, respectively. This means that functional value, emotional value and conditional value can account for 73.2 percent of the variance in consumers' attitude toward the hybrid car which is moderate. On the other hand, intention to purchase a hybrid car is accounted for by 63.2 percent of the variance by functional value, conditional value and consumers' attitude toward the hybrid car

which is moderate as well. From the R^2, it can conclude that, consumption value explained consumers' attitude toward hybrid car more than intention to purchase hybrid car. This is because attitude form before intention. Therefore, consumers' attitude play a role in theory of consumption values.

4.10.4 Effect Size

Besides evaluating the coefficient of determination (R^2), a measure called effect size (f^2) was examined. Effect size (f^2) is the change in R^2 value when a particular exogenous construct is deleted from the model (Hair et al., 2014). This is to evaluate whether the deleted construct has a substantive impact on the endogenous construct (Hair et al., 2014). The effect size can be calculated as:

$$f^2 = \frac{R^2 included - R^2\ excluded}{1 - R^2 included}$$

According to Cohen (1988), the f^2 values of .02 represent small effect; while 0.15 represent medium effect; and 0.35 represent large effect. As shown in Table 4.15, consumers' attitude toward the hybrid car (f^2=0.106); functional value (f^2=0.043); and conditional value (f^2=0.024) have small effect on intention to purchase a hybrid car; emotional value (f^2=0.003); and novelty value (f^2=0.003) have very small effect; while brand preference (f^2=0.000); and symbolic value (f^2=0.000) have no effect.

On the other hand, the results show that functional value (f^2=0.373) has a large effect on consumers' attitude toward the hybrid car. Emotional value (f^2=0.086); and conditional value (f^2=0.060) have small effect on consumers' attitude toward the

hybrid car. Lastly, symbolic value (f^2=0.004); and novelty value (f^2=0.004) have very small effect on consumers' attitude toward the hybrid car, as indicated in Table 4.13.

Table 4.13
The Effect Size of Latent Variables

Construct	R^2 included	R^2 excluded	R^2 included - R^2 excluded	1-R^2 included	Effect size (f^2)	Effect size rating
Intention to purchase a hybrid car						
Consumers' attitude toward the hybrid car	0.632	0.593	0.039	0.368	0.106	Small Effect
Brand preference	0.632	0.632	0.000	0.368	0.000	No Effect
Functional value	0.632	0.616	0.016	0.368	0.043	Small Effect
Symbolic value	0.632	0.632	0.000	0.368	0.000	No Effect
Emotional value	0.632	0.631	0.001	0.368	0.003	Very Small Effect
Novelty value	0.632	0.631	0.001	0.368	0.003	Very Small Effect
Conditional value	0.632	0.623	0.009	0.368	0.024	Small Effect
Consumers' attitude toward the hybrid car						
Functional value	0.732	0.632	0.100	0.268	0.373	Large Effect
Symbolic value	0.732	0.731	0.001	0.268	0.004	Very Small Effect
Emotional value	0.732	0.709	0.023	0.268	0.086	Small Effect
Novelty value	0.732	0.731	0.001	0.268	0.004	Very Small Effect
Conditional value	0.732	0.716	0.016	0.268	0.060	Small Effect

4.10.5 Predictive Relevance of the Model

Lastly, a measure of predictive capability is required for PLS for prediction purposes. In order to examine the predictive accuracy, Stone-Geisser's Q^2 value was examined (Hair et al., 2014). In SmartPLS 2.0 package, blindfolding procedure is the suggested approach to test predictive relevance. Blindfolding is a sample reuse technique where data will be removed from the data set based on the pre-determined distance value (D) in the endogenous construct indicators and estimates the parameters with the remaining data points and removal data is handled as missing value (Hair et al., 2014). As a result, a general cross-validating metrics Q^2 is produced. Q^2 value refers to the capability of the path model in predicting the originally observed values (Hair et al., 2014).

Q^2value can be calculated in two different ways. The cross-validated redundancy is the data prediction of both structural model and measurement model and therefore fits the PLS-SEM perfectly. Cross-validated communality uses only the construct scores estimated for the target endogenous construct to predict the removal data points. Hence, cross-validated redundancy as a measure of Q^2 is recommended and applied in this study.

According to Fornell and Cha (1994), a cross-validated redundancy value greater than 0 indicates that there is predictive relevance; while a value less than 0 indicates the model lacks predictive relevance. As illustrated in Table 4.14, the cross-validated redundancy for intention to purchase a hybrid car and consumers' attitude toward the hybrid car are 0.372 and 0.553, respectively. Since the Q2 values are more than 0, it

indicatesthere is predictive relevance of the model. As a conclusion, the model is predictable and consumers' attitude has become one of the importance variables in theory of consumption value rather than intention to purchase hybrid car.

Table 4.14
Predictive Quality Indicators of the Model

Variable	Cross-validated Communality	Cross-validated Redundancy
Intention to purchase a hybrid car	0.000	0.372
Consumers' attitude toward the hybrid car	0.756	0.553

4.11 Mediating Effect of Consumers' attitude toward the Hybrid Car

The benefit of using SEM for mediating analysis is that SEM can test the mediating variable as part of a comprehensive model (MacKinnon, 2008). Albers (2010) suggests that examination of mediating effects involves direct and indirect effects.

This study targeted to examine the mediating effect of consumers' attitude toward the hybrid car on the relationship between consumption values (i.e., functional value, symbolic value, emotional value, novelty value, and conditional value) and intention to purchase a hybrid car. To do that, the SmartPLS 2.0 was employed to examine the interaction effect of consumers' attitude toward the hybrid car as shown in Table 4.15.

To evaluate indirect effect, this study employed "bootstrapping the indirect effect" method as proposed by Preacher and Hayes (2008). According to Hair et al. (2014, p.223):

"When testing mediating effects, researchers should rather follow Preacher and Hayes (2008) and bootstrap the sampling distribution of the indirect effect, which works for simple and multiple mediator models".

According to Preacher and Hayes (2008), the path coefficient of "a" and "b" can be normally distributed but "a*b" will not necessarily be normally distributed (refer Figure 4.4). Therefore, "bootstrapping" procedure was employed to correct the situation. Derived from 5,000 bootstrap samples, results of the indirect effect are shown in Table 4.15.

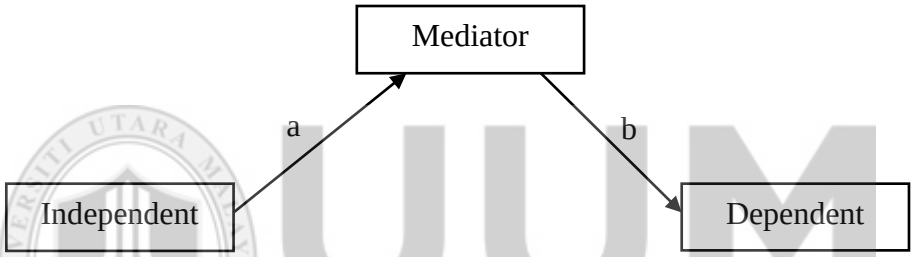

Figure 4.4
The Path Coefficient in Mediation
Source: Preacher and Hayes, 2008

The bootstrapping results show that the consumers' attitude toward the hybrid car is a significant mediator for the relationships between functional value and intention to purchase a hybrid car (β=0.399, t=9.953, p<0.01); emotional value and intention to purchase a hybrid car (β=0.196, t=5.115, p<0.01); and conditional value and intention to purchase a hybrid car (β=0.136, t=3.378, p<0.01); while there is no mediation effect between symbolic value and intention to purchase a hybrid car (β=0.026, t=0.646, p>0.1); and novelty value and intention to purchase a hybrid car (β=-0.026, t=0.737, p>0.1).

Also, as indicated by Preacher and Hayes (2008), the indirect effect of 95 percent bootstrapped confidence interval, as indicated in Table 4.15, shows there is mediation between functional value and intention to purchase a hybrid car (LL=0.317, UL=0.481); emotional value and intention to a purchase a hybrid car (LL=0.117, UL=0.275); and conditional value and intention to purchase hybrid car (LL=0.063, UL=0.209), as the lower limit (LL) and upper limit (UL) do not straddle a 0 in between the indication. Symbolic value and intention to purchase a hybrid car (LL=-0.052, UL=0.104); and novelty value and intention to purchase a hybrid car (LL=-0.094, UL=0.042) show no mediation as the lower limit (LL) and upper limit (UL) straddle a 0 in between the indication. Therefore, H12, H14 and H16 are supported while H13 and H15 are not suppoted or no mediation effect.

Table 4.15
Mediating Effect of Consumers' attitude toward the Hybrid Car

Hypothesis	Relationship	Direct relationship	Direct relationship when mediator is accounted	Indirect effect	Std. Error	t-value	LL	UL	p-value	Decision	Mediating effect
H12	Functional value -> Consumers' attitude toward the hybrid car -> Intention to purchase a hybrid car	0.447**	0.245**	0.399	0.042	9.953**	0.317	0.481	0.00	Mediation effect	Partial mediation
H13	Symbolic value -> Consumers' attitude toward the hybrid car -> Intention to purchase a hybrid car	0.025	0.012	0.026	0.04	0.646	-0.052	0.104	0.52	No mediation effect	No mediation
H14	Emotional value -> Consumers' attitude toward the hybrid car -> Intention to purchase a hybrid car	0.160**	0.062	0.196	0.04	5.115**	0.117	0.275	0.00	Mediation effect	Full mediation
H15	Novelty value -> Consumers' attitude toward the hybrid car -> Intention to purchase a hybrid car	0.052	0.064	-0.026	0.035	0.737	-0.094	0.042	0.46	No mediation effect	No mediation
H16	Conditional value -> Consumers' attitude toward the hybrid car -> Intention to purchase a hybrid car	0.206**	0.136*	0.136	0.037	3.738**	0.063	0.209	0.00	Mediation effect	Partial mediation

Note: **p<.01, *p<.05, LL-Lower limit, UL-Upper Limit

4.12 Moderating Effect of Brand Preference

A moderator variable can be assumed as the third variable that changes the relationship between the independent variables and dependent variable and is usually called as contingent variable (Figure 4.5). According to Holmbeck (1997), moderator variable is the one which influences the relationship between two variables and the nature of the impact of the predictor on the criterion varies according to the level or values of the moderator.

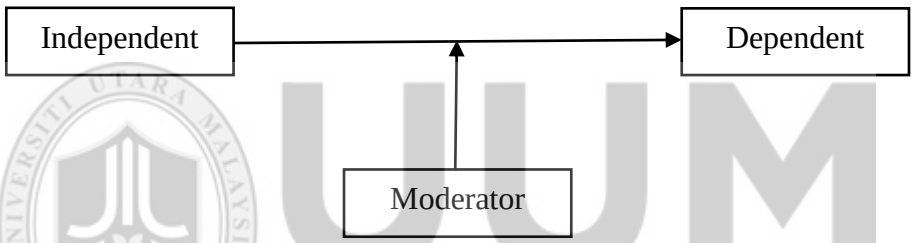

Figure 4.5
Moderated Relationship

In testing the moderation effect of brand preference in this study, consumers' attitude toward the hybrid car became the independent variable, while intention to purchase a hybrid car remained as the dependent variable. As very few studies have studied the moderation effect of brand preference between the relationship of consumers' attitude toward the hybrid car and intention to purchase a hybrid car, therefore, R^2 changes and effect size become important issues to determine the effects of brand preference as moderator. The R^2 for main effect model and interaction effect model are shown in Figure 4.6 and Figure 4.7. The R^2 for main effect model is 0.578; while the R^2 for interaction effect model is 0.586. The R^2 change is 0.008 which indicates

that the addition of brand preference changes by about 0.8 percent. The effect size (f^2) can be calculated by the formula as shown below:

$$f^2 = \frac{R^2 i - R^2 m}{1 - R^2 i}$$

Where:

m = main effect model (without the moderator)
i = interaction effect model (with the moderator)

Based on the formula, the f^2 of .02 can be concluded as small effect size according to Cohen's (1988) guidelines. This implies that the moderating effect of brand preference is considered small or low in this study. However, Chin, Marcolin, and Newsted (2003) mention that small effect size does not mean that the moderator effect is negligible. According to Chin et al. (2003, p.211):

"Even a small interaction affect can be meaningful under extreme moderating conditions, if the resulting beta changes are meaningful, then it is important to take these conditions into account."

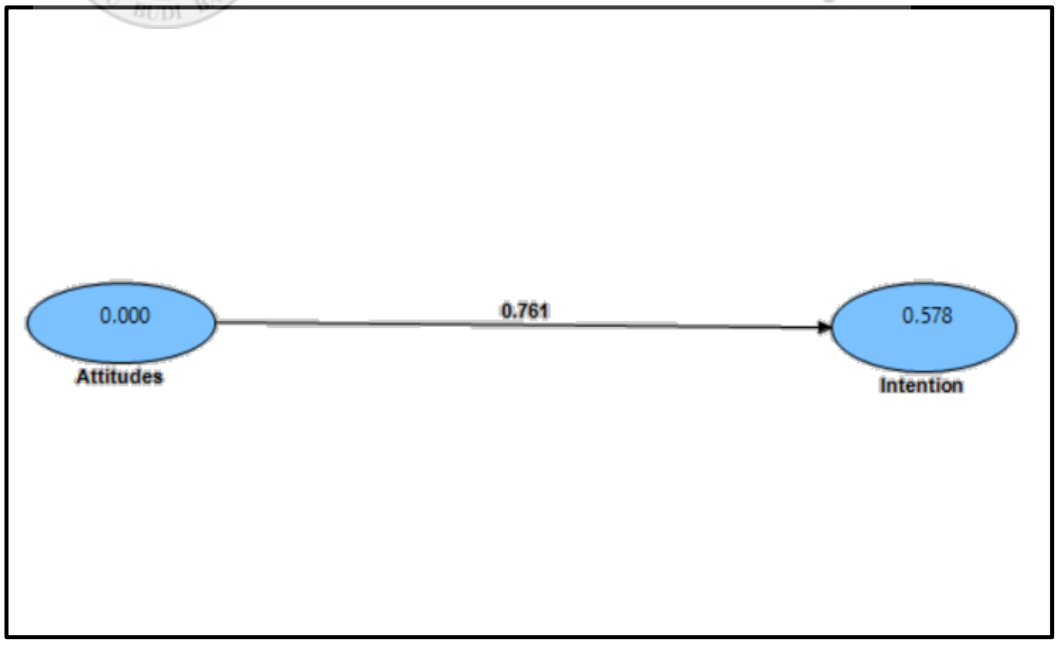

Figure 4.6
Main Effect Model

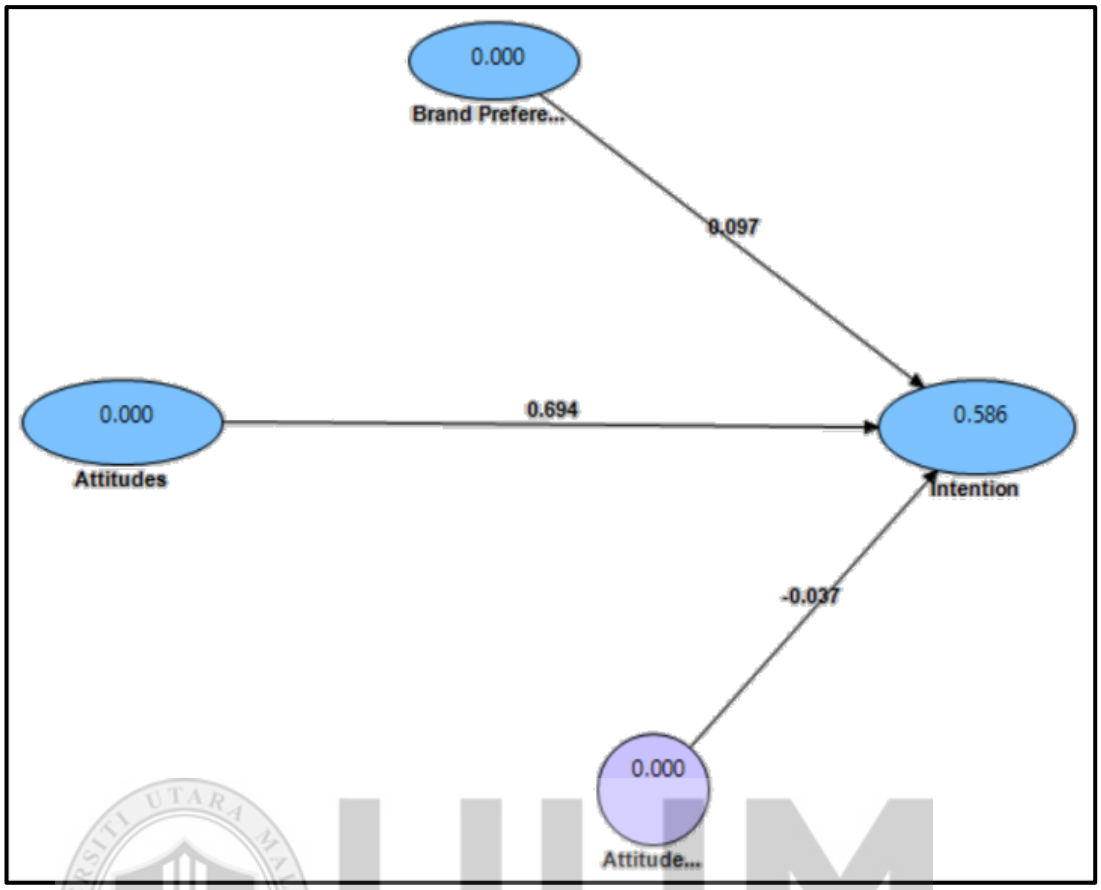

Figure 4.7
Interaction Effect Model

To test the interaction effect of brand preference, bootstrapping procedure was carried out in SmartPLS 2.0 with bootstrapping sample of 500. The cut-off value for this particular test was 1.645 and 2.33 at a significance level of 0.05 and 0.01, respectively. Table 4.16 illustrates the moderation effect of brand preference. Brand preference has no significant effect on the relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car (β=-0.037, t=0.98, p>0.1). Hence, H17 is not supported.

Table 4.16
Moderating Effect of Brand Preference

Hypothesis	Relationship	Path Coefficients	Std. Error	t-value	Decision
H17	Attitudes*Brand preference -> Intention	-0.037	0.037	0.98	Not supported

4.13 Summary of the Findings

Based on the analysis of the data reported in this chapter, the results are shown in Table 4.17.

Table 4.17
Summary of the Findings

Hypothesis	Relationship	Decision
H1	Consumers' attitude toward the hybrid car is positively associated with consumers' intention to purchase hybrid car in Malaysia.	Supported
H2	Functional value positively effect consumers' intention to purchase a hybrid car.	Supported
H3	Symbolic value positively effect consumers' intention to purchase a hybrid car.	Not supported
H4	Emotional value positively effect consumers' intention to purchase a hybrid car.	Not supported
H5	Novelty value positively effect consumers' intention to purchase a hybrid car.	Not supported
H6	Conditional value positively effect consumers' intention to purchase a hybrid car.	Supported
H7	Functional value positively effect consumers' attitude toward the hybrid car.	Supported
H8	Symbolic value positively effect consumers' attitude toward the hybrid car.	Not supported
H9	Emotional value positively effect consumers' attitude toward the hybrid car.	Supported
H10	Novelty value positively effect consumers' attitude toward the hybrid car.	Not supported
H11	Conditional value positively effect consumers' attitude toward the hybrid car.	Supported
H12	Consumers' attitude toward the hybrid car positively mediates the relationship between functional value and intention to purchase a hybrid car.	Supported*
H13	Consumers' attitude toward the hybrid car positively mediates the relationship between symbolic value and intention to purchase a hybrid car.	Not supported
H14	Consumers' attitude toward the hybrid car positively mediates the relationship between emotional value and intention to purchase a hybrid car.	Supported**

Table 4.17 (Continued)

Hypothesis	Relationship	Decision
H15	Consumers' attitude toward the hybrid car positively mediates the relationship between novelty value and intention to purchase a hybrid car.	Not supported
H16	Consumers' attitude toward the hybrid car positively mediates the relationship between conditional value and intention to purchase a hybrid car.	Supported*
H17	Consumers' brand preference moderates the relationship between consumers' attitude toward the hybrid car and consumers' intention to purchase a hybrid car.	Not supported

Note: * Partial mediation, **Full mediation

4.14 Chapter Summary

This study employs PLS-SEM as the major analysis technique since SEM is a very powerful analysis and has become the first choice to analyze complex models. Before testing the model of the study, SPSS was used for normality test. This is because there are two variations of SEM analysis, namely CBSEM and VBSEM. In order to choose the variation to be used in this study, normality test was carried out. Since the data is not normally distributed, then VBSEM has chosen as it does not require normally distributed data.

This study used SmartPLS 2.0 as a tool to run the analysis. The analysis in SEM is divided into two stages. The first stage is measurement model or outer model, where the validity and reliability of the items used for each construct were assessed. The next stage is the structural model where the hypotheses were tested and the relationship between the constructs assessed. According to Hair et al. (2014), there are five steps to assess the structural model. First, the collinearity of the structural model was assessed followed by structural model path coefficients. Coefficient of

determination (R^2) was the next step, followed by effect size (f^2) and the last step was to assess the predictive relevance (Q^2) through blindfolding. After the two stages, mediating effect and moderating effect were carried out. Mediating effect was tested by using the Preacher and Hayes' (2008) and Baron and Kenny's (1986) methods, while moderating effect was carried out through bootstrapping procedure.

As indicated in the various analyses above, six out of 11 hypotheses are accepted as being significant; while five hypotheses are rejected because of insignificant findings. Six additional hypotheses were tested for mediating and moderating effects - three are supported while another three are not supported. Of the three supported hypotheses, two have partial mediation while one has full mediation. Besides, there is no moderating effect between consumers' attitude toward the hybrid car and intention to purchase a hybrid car. The detailed discussions of the findings are in the next chapter.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Chapter Overview

This chapter begins with a summary of the study, followed by the discussion of findings. Next, both theoretical and practical contributions of the study are discussed in the following section. The last part of the chapter provides a conclusion of the study after presenting the limitations of the study and suggestions for future research.

5.2 Recapitulation of the Study Findings

Based on the discussion above, in response to the first and second research questions on level of intention to purchase a hybrid car and consumers' attitude toward the hybrid car, the findings indicate that intention among Malaysians to purchase a hybrid car is at a high level while their attitude to the hybrid car is highly positive. As for the third research question on whether brand preference moderates the relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car, findings from PLS indicate that brand preference has no moderating effect on the relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car. Thus, this study rejects the hypothesis on moderating effect of brand preference.

In line with the fourth and fifth research questions on whether consumers' attitude toward the hybrid car, functional value, symbolic value, emotional value, novelty

value and conditional value influence intention to purchase a hybrid car, findings show that three variables have significant relationship with intention to purchase a hybrid car. These variables include consumers' attitude toward the hybrid car, functional value and conditional value. Intention to purchase a hybrid car is explained by the three mentioned variables and accounts for 63.2 percent of R^2.

Based on the sixth research question whether functional value, symbolic value, emotional value, novelty value and conditional value influence consumers' attitude toward the hybrid car, the findings indicate that functional value, emotional value and conditional value are significant in influencing consumers' attitude toward the hybrid car, accounting for 73.2 percent of R^2 by the three variables.

Lastly, the seventh research question, on the analysis of mediation indicates that consumers' attitude toward the hybrid car mediates the relationship between: (a) functional value and intention to purchase a hybrid car; (b) emotional value and intention to purchase a hybrid car; and (c) conditional value and intention to purchase a hybrid car. Conversely, consumers' attitude toward the hybrid car does not mediate the relationship between: (a) symbolic value and intention to purchase a hybrid car; and (b) novelty value and intention to purchase a hybrid car.

5.3 Discussion

To discuss the empirical findings, the following sub-sections are organized to answer the seven research questions set earlier in line with the 17 hypotheses, and to achieve the research objectives.

5.3.1 Level of Intention to Purchase a Hybrid Car and Attitude toward the Hybrid Car among Malaysian Consumers

The focus of the first and second research questions is on the level of intention to purchase a hybrid car and the level of consumers' attitude toward the hybrid car among Malaysian consumers. Intention is a strong predictor of actual behavior. It entails the possibility of consumers purchasing a hybrid car being high among Malaysian consumers. Based on the findings, it indicates that the level of intention to purchase a hybrid car tends to be high. This can be observed from the mean of intention to purchase a hybrid car. The finding is in line with a previous study by Oliver and Lee (2010). Oliver and Lee (2012) found that the level of intention of US consumers to purchase a hybrid car was moderate; while for Korean consumers, it was high. Malaysia and Korea are more collectivist countries; therefore, the finding is confirmed. The high level of intention indicates that consumers are ready to accept the hybrid car and intend to purchase a hybrid car in the near future. This shows that the hybrid car market can grow in the near future.

One possible reason to explain the high level of intention to purchase a hybrid car among the respondents is the increase in fuel prices. In recent years, the fluctuation of fuel price has caused consumers to be worried and consumers believe that the hybrid car can help them to save money on fuel (Hong et al., 2013). At the same time, the government has announced a tax exemption policy for hybrid cars, leading to hybrid car prices being at an affordable level (as low as below RM 100,000)

For the second research question, the overall findings demonstrate that the level of attitude to the hybrid car as perceived by respondents tends to be high which is consistent with the previous study by Vazifehdoust et al. (2013) who found that the level of attitude to green products tends to be high. This means that the respondents' attitude to the hybrid car is favorable. The possible reason for the level tending to be high might be the hybrid car is still new in Malaysia and consumers have the awareness of the advantages of using a hybrid car. This indicates that respondents are aware of environmental issues and believe that the hybrid car could reduce the level of environmental degradation. Besides, consumers' attitude was found to be the most significant predictor of intention to purchase a hybrid car.

5.3.2 The Effect of Determinants on Intention to Purchase a Hybrid Car and Consumers' attitude toward the Hybrid Car

The third, fourth, and fifth research questions are based on determining intention to purchase a hybrid car and consumers' attitude toward the hybrid car. The results show that three out of six factors are significantly related to intention to purchase a hybrid car. The factors found to be significantly related to intention to purchase a hybrid car are consumers' attitude toward the hybrid car, functional value and conditional value. It shows that consumers' attitude toward the hybrid car, functional value and conditional value constitute a large percentage of explanation on the difference in intention to purchase a hybrid car, indicating that intention to purchase a hybrid car can be predicted by the three variables with a large explanatory power, explaining 63.2 percent of the difference. Out of the three variables, consumers'

attitude toward the hybrid car has the highest contribution, followed by functional value and lastly conditional value.

The comparison between demographic variables to intention to purchase a hybrid car is not included as a research objective. However, the analysis can be meaningful for marketers to market the hybrid car to the right target market. Therefore, the analysis of this study found that among the demographic variables, only age group has significant differences towards intention to purchase a hybrid car. Specifically, generation X and generation Y are the potential future buyers of the hybrid car. The result of other variables, such as gender, shows no significant differences between males and females in terms of intention to purchase a hybrid car, in line with the finding of Tan and Lau (2010).

The researcher found that most of the respondents who intend to purchase a hybrid car do so because they feel that they will play a crucial role in helping the environment when they drive a hybrid car. In other words, environmental issue is the main reason respondents purchase the hybrid car. This can be supported by the statement where most of the respondents claimed that they intend to purchase a hybrid car because the hybrid car is environmentally-friendly and respondents feel more comfortable driving a hybrid car than a conventional car.

There are three factors significantly related to consumers' attitude toward the hybrid car: functional value, emotional value and conditional value. It shows that functional value, emotional value and conditional value constitute a large percentage of explanation on the differences in consumers' attitude toward the hybrid car,

indicating that consumers' attitude toward the hybrid car can be predicted by the three variables with a large explanatory power, explaining 73.2 percent of the difference. Functional value is found to be the highest contributor, followed by emotional value and conditional value. Each variable is explained in detail in the following sections.

5.3.2.1 Consumers' attitude toward the Hybrid Car

It has been established that a significant relationship exists between consumers' attitude toward the hybrid car and intention to purchase a hybrid car, meaning that the more a customer develops favorable feelings for the hybrid car, the intention to purchase a hybrid car is higher or stronger. Therefore, consumers' attitude, which is delivered in terms of attitude to the hybrid car and attitude to the environment, always contributes to consumers' intention to purchase. This is consistent with a recent study in Malaysia by Alesia et al. (2014); Chan (2013); Chen et al. (2012); Kim and Chung (2011);Methaq Ahmed and Nabsiah (2012); Ooi et al. (2012); Syaidatina Akila and Norazah (2013); Tan (2013); and Vazifehdoust et al. (2013). This shows that consumers' attitude has a positive impact on consumers' intention to purchase a hybrid car. It is proven that consumers with positive attitude to the hybrid car and the environment influence their purchase decision.

According to the findings of this study, some reliable reasons for obtaining a significant relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car can be identified. A favorable attitude can greatly influence purchase intention, i.e., if consumers possess a favorable attitude about the

hybrid car, the probability is that the consumers' intention to purchase a hybrid car will be higher. In addition, consumers are found to have a more favorable attitude regarding the benefits of a hybrid car to the environment. This shows that consumers are aware of and concerned with environmental issues and believe that the hybrid car can change the environment and provide a better future for the next generation. In the same vein, the more benefits that the hybrid car can give to consumers, the more likely consumers will purchase a hybrid car. This is in line with the finding of Hong et al. (2013), where a pro-environmental attitude was found to have a significant relationship with use of the hybrid car.

5.3.2.2 Functional Value

The second significant association shows that functional value and intention to purchase a hybrid car are significantly related. Functional value shows the highest significant relationship with consumers' attitude toward the hybrid car. It indicates that functional value, in terms of price, quality and maintenance cost of hybrid car could satisfy the consumers, and thus form consumers' intention to purchase the hybrid car. In other words, if the hybrid car does not offer functional value to consumers, they will not purchase a hybrid car. The finding of this study is consistent with prior studies, such as Alesia et al. (2014); and Wang et al. (2013); however, it is not in line with Lin et al. (2010); Lin and Huang (2012); and Williams and Soutar (2009). Specifically, in terms of the maintenance cost dimension, the finding of this study is in line with the previous study of Hong et al. (2013); while in terms of price and quality, the study by Afzaal and Israr (2012) is consistent with the finding of this study.

Consumers will form a favorable attitude to the hybrid car when they are satisfied with the functional value provided by the hybrid car. This indicates that positive attitude is formed when consumers agree with the functional value of the hybrid car. However, the finding is not in line with a previous study by Alesia et al. (2014). Alesia et al. (2014) found that consumption values are not significantly related to consumers' attitude. On the other hand, specifically, quality was found to be in line with the finding of Vazifehdoust et al. (2013).

The results also show that respondents are willing to pay a premium price to purchase a hybrid car. This finding is consistent with a market survey reported by Lung (2010), which therefore strengthens the statement that functional value is the most salient consumption value that influences consumers' purchase intention. Among the three dimensions (i.e., price, quality and maintenance cost), maintenance cost is the most significant functional value followed by quality, then price. Intention of respondents to purchase a hybrid car can be due to the fluctuating fuel price. This is because according to the result, most of the respondents agree with the statement that the hybrid car consumes less petrol and is better in terms of fuel efficiency. Therefore, the dimensions to test functional value should consider the product that is being studied, and not just price and quality. Researchers might miss the important dimensions in predicting functional value. Therefore, consumers' intention to purchase a hybrid car might be due to the price, quality and maintenance cost of the hybrid car.

5.3.2.3 Symbolic Value

The finding of this study shows that symbolic value has no significant relationship with intention to purchase a hybrid car as well as consumers' attitude toward the hybrid car. This means that consumers maintain their purchase intention and attitude without the influence of symbolic value. Therefore, intention to purchase a hybrid car and consumers' attitude toward the hybrid car are not influenced and there is no valid excuse or strong reason for customers to change their purchase intention and attitude based on symbolic value.

Symbolic value, in this study, is made up of three dimensions, namely social value, social influence and self-identity. Previous studies have concentrated on either one or two of the dimensions mentioned. The finding is in line with some previous findings, such as Chan (2013); Hong et al. (2013);Lin et al. (2010); Lin and Huang (2012); Punitha and Azmawani (2011); and Williams and Soutar (2009) who found that either social value or social influence or self-identity is not significant with purchase intention. Meanwhile, this finding is not consistent with some previous studies that either social value or social influence or self-identity is significant with purchase intention (Alesia et al., 2014; Kim & Chung 2011; Oliver and Lee, 2010; Ooi et al., 2012; Wang et al., 2013). There are also studies which have found that social influence is significant with purchase intention while no significant relationship exists between self-identity and purchase intention (Nabsiah et al., 2011). Tan's (2013) finding contradicts Nabsiah et al.'s (2011) finding where social influence is not significant with purchase intention, while self-identity is significant with purchase intention.

The possible reason that symbolic value does not have a significant relationship with intention to purchase a hybrid car could be that respondents do not feel that buying a hybrid car could increase their social approval, status or make a good impression. This is because many consumers believe that the government and businesses should take the responsibility for environmental preservation (Laroche et al., 2010). This might be due to the reliability of social networks, such as Facebook or Twitter, being doubtable. Besides, in this 21st century, consumers are able to access large amounts of information via the internet. Therefore, consumers can make their own decisions precisely rather than listen or follow social groups, such as friends and family.

In turn, the results also convey that consumers make decisions based on their personal beliefs rather than social influence or symbolic value. This has been proven by studies conducted by Kalafatis et al. (1999); and Shamdasani, Ong and Richmond (1993). Shamdasani et al. (1993) found that Singaporeans are more likely to make decisions based on their personal factors. In today's society, there is a slight shift from a collectivist to an individualist society in Malaysia. This is proven by the findings from Fauziah Noordin's (2004) study. As the country becomes individualistic, personal beliefs become consumers' main concern. Therefore, symbolic value becomes less important in predicting consumers' purchase intention.

5.3.2.4 Emotional Value

Emotional value does not have a significant relationship with intention to purchase a hybrid car, while there is a significant relationship with consumers' attitude toward the hybrid car. This indicates that emotional value does not lead to consumers' intention to purchase a hybrid car; however, emotional value is associated with consumers' attitude toward the hybrid car. Therefore, intention to purchase a hybrid car is not influenced by emotional value but it influences consumers' attitude. The finding is not in line with previous studies. Most of the studies found that emotional value has a significant influence on purchase intention (Lin et al., 2010; Lin & Huang, 2012; Wang et al., 2013; Williams & Soutar, 2009), and no significant influence on consumers' attitude (Alesia et al., 2014). However, different products and different contexts reveal different results. All the above mentioned studies were not conducted in Peninsula Malaysia.

The finding of the study shows that consumers who intend to purchase a hybrid car are not directly affected by emotional value, but through consumers' attitude. People regard buying a hybrid car as an act that helps to preserve the environment, which in turn generates positive experience and feelings of doing well for the environment and themselves. In turn, the government and marketers could generate positive attitude by generating slogans that could form consumers' positive attitude to the hybrid car. Therefore, emotional value can form a favorable attitude to the hybrid car among consumers.

5.3.2.5 Novelty Value

Similar to symbolic value, novelty value is found to be insignificantly related to intention to purchase a hybrid car as well as consumers' attitude toward the hybrid car. This shows that novelty value does not change consumers' intention to purchase a hybrid car as well as consumers' attitude toward the hybrid car. The finding of insignificant relationship between novelty value and intention to purchase a hybrid car is not in line with most of the previous studies, such as Alesia et al. (2014); Lin et al. (2010); Lin and Huang (2012); Wang et al. (2013); and Williams and Soutar (2009). However, the finding of insignificant relationship between novelty value and consumers' attitude toward the hybrid car is consistent with Alesia et al. (2014).

The possible reason of a non-significant relationship might be because consumers are aware of the hybrid car in the market and have the knowledge about the hybrid car. Therefore, knowledge does not seem to influence consumers to purchase a hybrid car. The probability that consumers purchase a hybrid car, whether with or without knowledge, is equal. As mentioned earlier, consumers nowadays are able to access a variety of information via the internet. This is also the reason businesses should always keep their website information up-to-date as consumers will first browse through company website to know about the product before entering a showroom or a store. Those who enter the showroom or store are the ones who seek advice as they actually come with some knowledge about the hybrid car. Therefore, consumers who enter showrooms are either looking for better explanation or are attempting to actually purchase.

5.3.2.6 Conditional Value

Conditional value is the third significant factor which has a relationship with intention to purchase a hybrid car as well as consumers' attitude toward the hybrid car. This indicates that when there is a promotion by manufacturers or tax exemption by the government, consumers will form intention to purchase a hybrid car and have a favorable attitude to the hybrid car. Therefore, the government plays an important role besides the manufacturer. This finding is consistent with most of the previous studies, such asAlesia et al. (2014); Lin et al. (2010); Lin and Huang (2012); Wang et al. (2013); and Williams and Soutar (2009).

According to the finding, the researcher found that promotions, subsidies (tax exemption) and discounts are the main conditional values which attract consumers rather than environmental reasons. In other words, the government and businesses could provide discounts, subsidies or promotions for the hybrid car, creating greater opportunities and boosting the hybrid car's conditional value. Therefore, tax exemption, promotion and discounts can be the reasons consumers purchase the hybrid car while tax exemption can be the main reasons as stated by Hong et al. (2013) in their research.

5.3.3 Mediating Effect of Consumers' attitude toward the Hybrid Car

Based on the sixth research question that focuses on the mediating effect of consumers' attitude toward the hybrid car and the association between functional value, symbolic value, emotional value, novelty value and conditional value and intention to purchase a hybrid car, the study's finding shows that there is a mediating effect of consumers' attitude toward the hybrid car on the relationship between functional value, emotional value and conditional value and intention to purchase a hybrid car. As mentioned earlier, attitude has been widely used as a mediator between the predictors and purchase intention. However, there are limited studies on the mediating effect between consumption values and purchase intention. Alesia et al. (2014) tested the relationship between consumption values and consumers' attitude and consumers' attitude and purchase intention; however, the researchers did not examine the mediating effect of consumers' attitude between consumption values and purchase intention.

Functional value and conditional value are found to have a partial mediation in consumers' attitude toward the hybrid car with intention to purchase a hybrid car. This indicates that functional value and conditional value have a direct relationship with intention to purchase a hybrid car as well as indirect relationship through consumers' attitude toward the hybrid car. The hybrid car's functional attributes could lead to consumers' intention through favorable attitude. This means that the hybrid car's functional attributes could form a favorable attitude and lead to consumers' intention to purchase a hybrid car. The same goes for conditional value - when there is promotion and discount by manufacturers, such as case rebate or

government policy, such as tax exemption, it could form a positive attitude toward the hybrid car and hence, intention to purchase a hybrid car is formed.

Promotion is a tool that marketers usually use to attract new or existing customers. The government also plays an important role in creating opportunities for businesses. As a result, the researcher found that promotions, subsidies and discounts are the main conditional values which form a positive attitude rather than environmental reasons. Therefore, apart from functional value, conditional value is also an important consideration which can form a positive attitude to purchase intention.

Emotional value on intention to purchase a hybrid car is found to be fully mediated by consumers' attitude toward the hybrid car. This indicates that emotional value significantly influences intention to purchase a hybrid car through consumers' attitude toward the hybrid car. In other words, without examining the mediating effect of consumers' attitude, emotional value does not significantly influence intention to purchase a hybrid car. When the hybrid car can arouse consumers' positive feelings towards the hybrid car, it will lead to favorable attitude to the hybrid car, and thus form the consumers' intention to purchase a hybrid car. This means that in terms of emotional value, marketers must be able to create a favorable attitude before consumers would form a purchase intention.

5.3.4 Moderating Effect of Brand Preference

The seventh research question is related to how brand preference moderates the relationship between consumers' attitude toward the hybrid car and intention to

purchase a hybrid car. The result of this study indicates insignificant effect of brand preference on the relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car. There are very few studies on brand preference as moderator of the relationship between consumers' attitude and purchase intention. Therefore, this result is the first empirical finding about the moderating effect of brand preference, especially in the Malaysian context.

The findings of this study show that brand preference does not perform any moderating role on the relationship between consumers' attitude and purchase intention, which means that brand preference has no influence on the association between consumers' attitude and purchase intention. This result is possible because Nielson (1996) argues that type of consumer, product and business could lead to different findings. As mentioned earlier, although consumers have certain brands they prefer to purchase, this does not mean that they will purchase that brand all the time. One of the interesting findings from this study is most of the respondents claimed that they are interested in buying a hybrid car from other brands. This means that instead of the brand they prefer, they are also interested to try other brands from marketers who offer the same or similar product.

When a product is available in different brands, brand switching is very common. This is similar to the likelihood of consumers transforming their intention into actual behavior. Every consumer have a brand they prefer to purchase, when preferable brand form, they will gather information about the brand; however, it might be influenced by other factors, such as personal ability. When the preferred brand is priced over their ability, they will start searching for a brand which is affordable and

within their budget. For example, based on the findings of this study, most of the respondents prefer Toyota; however, Honda is the top hybrid car seller. Therefore, brand preference does not always influence the relationship between consumers' attitude and purchase intention.

5.4 Contributions of the Study

Basically, this study and its findings have given rise to significant theoretical and methodological contributions while providing several managerial implications. These contributions and implications are discussed further in the following sections.

5.4.1 Theoretical Contribution

The theoretical contribution of this study is based on: (i) identifying how consumption values and consumers' attitude toward the hybrid car influence intention to purchase a hybrid car; (ii) examining the mediating effect of consumers' attitude between the predictors and purchase intention; and (iii) examining the moderating role of brand preference between consumers' attitude and purchase intention among individual consumers in Malaysia. Investigating the above relationship on individual Malaysian consumers, particularly hybrid car purchase behavior in the Klang Valley, is the main contribution of this study to the existing literature on Malaysia's automotive market.

This study assists in examining the theory of consumption values regarding consumers' intention to purchase a hybrid car in the near future. To the researcher's knowledge, a few studies have applied the theory of consumption values to examine purchase intention in the tourism and smartphones contexts. Based on the theory, researchers have examined why consumers choose to buy or not to buy a specific product; why consumers choose one product type over another; and why consumers choose one brand over another (Sheth et al., 1991). This study answers the above mentioned three questions based on the theory that consumers choose the hybrid car because of its functional and conditional value; consumers choose the hybrid car over the regular car because of environmental issue; and consumers prefer to purchase their hybrid cars from Toyota.

In this study, the theory is based on consumers' perceived functional, symbolic, emotional, novelty and conditional value which will form their attitude to the hybrid car and lead them directly and indirectly to purchase a hybrid car. It also uses brand preference as moderator to moderate the relationship between consumers' attitude and purchase intention. Based on the theory, this study shows a link in the relationships between certain consumption values and consumers' attitude toward the hybrid car and intention to purchase the hybrid car. The findings of this study support the views that certain consumption values could create favorable attitude and increase the level of intention to purchase a hybrid car in the long-run.

Besides, this study also contributes by examining the consumers' attitude toward the hybrid car as mediator between consumption values and intention to purchase a hybrid car. Consumers' attitude toward the hybrid car is the most significant

predictor and it can be identified through positive or favorable feelings towards the hybrid car. This study finds consumers' attitude toward the hybrid car does mediate the effect between functional value, emotional value and conditional value and intention to purchase a hybrid car. This finding extends the theory of consumption values with additional variables, as predictor as well as mediator. This study has found that consumers' attitude as the important predictor and play a more significant role in the theory of consumption value. Consumption Cosnuemr' attitude form befire intention to purcahse. The findings show that consumption values explained consumers' attitude moer than intention to purchase hybrid car. Therefore, the finding of consumers' attitude has extends the theory of consumption value as an additional variable and should be included int he theory as a predictor as well as mediator.

Additionally, the extra dimensions added to the existing variable, such as maintenance cost for functional value does contribute to the theory. Any dimension to test the predictor should be appropriate and relevant to the product under study. As mentioned by Sheth et al. (1991), the decision to purchase an automobile might be because of fuel economy or maintenance cost. The dimension tested must be consistent with the product. Therefore maintenance cost is an appropriate dimension to predict the functional value of the hybrid car apart from price and quality.

This study contributes to the examination of brand preference as moderator of the relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car. As mentioned earlier, Chedi (2008) found that brand preference does moderate the effect of congruity. However, this study finds that

brand preference has insignificant influence on the relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car. This suggests that the influence of brand preference on consumers' intention is varied among different products.

Apart from theoretical contributions, this study also contributes from the methodological perspective. This study contributes to the methodology by measuring the independent variables, mediator, moderator and dependent variable in the automotive industry, particularly for the hybrid car, using individual consumers. The measurements of these variables are shown to have good reliability and validity in the automotive industry. Besides, a new consumption value to replace the social value, i.e., symbolic value with three dimensions (social value, social influence and self-identity) can be studied in future research, as this is the first study which has used this variable. The new dimension of functional value (i.e., maintenance cost) should be considered as well as it has been found as the most significant dimension of functional value compared to price and quality. Therefore, this study contributes methodologically by validating the measurements of this study in a different context, which has not been utilized previously.

5.4.2 Managerial Implications

Along with the theoretical and methodological contributions, this study also has several managerial implications. The findings of the study have several useful managerial implications for automotive managers with respect to improving their effective marketing plans for the future. The managers can make use of the research

findings to develop and implement plans which could create consumers' purchase intention.

As product value has been identified as important to ensure purchase intention, managers or marketers should create more value in terms of functional and conditional value for consumers as this will directly influence consumers' purchase intention and lead to actual purchase. As mentioned earlier, purchase intention is a good predictor for actual purchase behavior. For example, in terms of the functional attributes, if the hybrid car is priced at an affordable price and is of high quality compared to regular cars, with low maintenance cost and good safety features, it will create a better functional value to consumers than the other vehicles, thus definitely creating consumers' positive attitude and intention to purchase a hybrid car. In other words, when consumers are satisfied with the functional value of the hybrid car, they will form a positive attitude to the hybrid car and create intention to purchase a hybrid car. Thus, before consumers carry out the actual behavior, marketers must create value for consumers, which would lead to positive attitude and purchase intention.

The findings also show that government subsidy and manufacturers' promotions or discounts could create a positive attitude as well as intention to purchase a hybrid car among Malaysian consumers. Therefore, the government should consider continuing the tax exemption policy or any policy which could boost the sales of hybrid cars in order to achieve the NAP's objectives to become the regional hub of energy efficient vehicles. Additionally, local brand manufacturers, Proton and Perodua, should introduce and produce their own hybrid car as soon as possible to the market. This is

because the hybrid car market is still at the penetration level where there is still a low level of hybrid car usage in Malaysia. Therefore, there is an opportunity for local brand manufacturers to enter the market by offering better functional and conditional values to the consumers which could help the local brand manufacturers to regain their market share.

5.5 Limitations and Future Research Directions

Six factors have been investigated by the research framework of this study as predictors of intention to purchase a hybrid car. In order to generalize the findings of the study, more studies should be carried out within the automotive industry as well as to compare with other industries. Additionally, this study used the theory of consumption values as a basic theory and concentrated on hybrid car purchase intention. Therefore, future studies could examine different product categories by using the theory of consumption values instead of extending the TPB or TRA. This is because the theory of consumption values is able to explain 63.2 percent of behavioral intention in this study, while the TPB and TPA could only explain 40 percent of behavioral intention as mentioned earlier. Hence, it shows that the theory of consumption values could be better in predicting purchase intention than the TPB or the TRA.

The study has found that 63.2 percent of intention is explained by the six predictors mentioned above, which indicates that there are some other factors that could probably influence consumers' purchase intention. In other words, there are 36.8 percent of differences that could be explained by other variables not included in this

study. Therefore, future research can consider including other possible predictors to examine the consumers' purchase intention.

Cross-culture studies are encouraged to investigate whether different cultures may have different value structures and different purchase behaviors. A cross-culture study can be carried out in Malaysia between the West Coast and East Coast. This is because the culture, living habits and style are generally different. A study conducted in the West Coast or the East Coast of Malaysia cannot be generalized as they have different cultures and living styles. Therefore, cross-culture study can be carried out within Malaysia, so that the marketers can apply two different marketing plans or strategies across the two coasts.

Longitudinal studies might be better and appropriate to understand the consumers' purchasing behavior. This is because consumers' behavior might change over time and longitudinal research design can provide a more accurate understanding about consumers' purchasing behavior. Besides, it can also investigate whether consumers do transform their intention into actual behavior. Interviews can be used to understand consumers' motives as the hybrid car is still in its infant stage in Malaysia. Therefore, interviewing the existing hybrid car buyers and non-hybrid car buyers as well as comparing between the two groups can provide more insight about consumers' behavior.

Age group is the only demographic variable that shows significant differences in intention to purchase a hybrid car. Therefore, age group can be treated or considered as a moderating variable in future research on the relationship between consumption

values and purchase intention. This will be very useful for marketers to plan and target the product to the right consumers.

A study on repurchase intention among the existing customers should be carried out in future. This is because if existing customers pose a high level of repurchase intention, it could mean that they are satisfied with the current hybrid car in the market. However, if the level of repurchase intention is low among the existing customers, then marketers or industry producers should investigate what has caused the low repurchase intention. This seems to be important in creating customer satisfaction which can lead to loyalty. Otherwise, with the variety of brands available in the market, brand switching might occur.

5.6 Conclusion

First of all, the purpose of this study is to examine the antecedents of intention to purchase a hybrid car among individual Malaysian consumers. The findings of the study indicate that the level of intention to purchase a hybrid car and consumers' attitude toward the hybrid car tends to be high. This means that consumers constructively intend to purchase a hybrid car. The findings of the study are considered as additional contribution to knowledge of consumers' behavioral intention. It also suggests that managers or marketers of automobile companies should create more value in order to stay competitive and create consumers' favorable attitude and intention to purchase a hybrid car.

The findings of the study also suggest that three factors: consumers' attitude toward the hybrid car, functional value, and conditional value have significant influence on intention to purchase a hybrid car, while symbolic value, emotional value, and novelty value have insignificant relationship with intention to purchase a hybrid car. The finding provides academicians with stronger basis to develop strategies that could lead to consumers' intention to purchase hybrid cars. Therefore, hybrid car producers should take efforts to improve the functional value and conditional value of the hybrid car which could lead to favorable attitude and intention to purchase hybrid cars.

A positive relationship exists between functional value and intention to purchase hybrid cars which means when consumers perceive functional value positively, they will form the intention to purchase a hybrid car. Another positive association is between conditional value and intention to purchase a hybrid car. This means that when positive conditional value is perceived by consumers, intention to purchase a hybrid car is created. When consumers have a favorable attitude to the hybrid car, they will want to purchase a hybrid car in the near future. Hence, functional attributes and government and producers effort can lead to hybrid car purchase intention.

Symbolic value, emotional value and novelty value are found to be insignificant with intention to purchase a hybrid car. This means the intention to purchase a hybrid car is based on individual consumer's personal belief and decision rather than social groups' influence. On the other hand, consumers form intention to purchase a hybrid car based on functional and conditional value rather than the feelings aroused by

emotional value. Apart from that, knowledge is not a factor that influences consumers' purchase intention. Consumers, with or without the knowledge, could also form the intention to purchase a hybrid car.

On the mediating effect of consumers' attitude toward the hybrid car on the relationship between the predictors and intention to purchase a hybrid car, it is found that some predictors are effective and thus supported. Consumers' attitude toward the hybrid car mediates the relationship between: (a) functional value and intention to purchase a hybrid car; (b) emotional value and intention to purchase a hybrid car; and (c) conditional value and intention to purchase a hybrid car, while consumers' attitude toward the hybrid car does not mediate the relationship between: (a) symbolic value and intention to purchase a hybrid car; and (b) novelty value and intention to purchase a hybrid car. When consumers perceive significant functional value, emotional value and conditional value, they will form a favorable attitude to the hybrid car and increase the level of intention to purchase a hybrid car and vice versa.

In terms of moderating effect of brand preference, the relationship between consumers' attitude toward the hybrid car and intention to purchase a hybrid car is not moderated by brand preference. This indicates that whether or not there is a brand that consumers prefer most, favorable or unfavorable feelings for a hybrid car forming purchase intention is not influenced by brand preference. When consumers form a favorable attitude towards the hybrid car, they might intend to purchase a hybrid car although the brand they prefer does not offer hybrid cars. In simple

explanation, the consumers' intention or otherwise to purchase a hybrid car is not moderated by brand preference.

Basically, the findings of this study are in line with previous studies and the research objectives of this study. Other industries could also apply the model of this study to increase the understanding and existing literature. The implications of the findings in this study are discussed in order to provide information from the perspective of behavioral intention to academicians and stakeholders as well as any other industry.

REFERENCES

Aaker, D. A. (1991).*Managing brand equity: Capitalizing on the value of a brand name.* New York: The Free.

Aaker, D. A. (1996).*Building strong brands.*The Free Press. New York, NY.

Aayed, Q & Rohaizat, B. (2011). A synthesis model of consumer's perceived for brand quality and preferences: A theoretical perspective. The 5th Asian Academy of Applied Business, Phnom Penh, Cambodia.

Abdullah, N., Riza Atiq, O. K. R., & Amiruddin, I. (2007).Effect of transportation policies on modal shift from private car to public transport in Malaysia.*Journal of Applied Sciences, 7*(7), 1014-1018. http://dx.doi.org/10.3923/ijas.2007.1013.1018

Afzaal, A., & Israr, A. (2012). Environment friendly products: Factors that influence the green purchase intentions of Pakistani consumers. *Pakistan Journal of Engineering Technology and Science, 2*(1), 84-117. Retrieved from http://www.pjets.iobm.co/wp-content/uploads/2015/06/11.-Environment-Friendly-Products.pdf

Agresti, A., & Finlay, B. (2009).*Statistical methods for the social sciences* (4th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.

Ajzen, I. (1991). The theory of planned behavior.*Organizational Behavior and Human Decision Processes, 50*(2), 179-211. http://dx.doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2003). *Attitudes, Personality, and Behaviour* (2nd ed.). Berkshire, England: Open University Press, McGraw-Hill.

Ajzen, I. (2005). *Attitudes, personality and behavior* (2nd ed.). Maidenhead, UK: Open University Press.

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888-918. http://dx.doi.org/10.1037/0033-2909.84.5.888

Ajzen, I., & Fishbein, M. (1980).*Understanding attitudes and predicting social behavior.* Englewood Cliffs, NJ: Prentice-Hall.

Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions and perceived behavioral control. *Journal of Experimental Social Psychology, 22*(5), 453-474. http://dx.doi.org/10.1016/0022-1031(86)90045-4

Akehurst, G., Afonso, C., Gonçalves, H. M. (2012). Re-examining green purchase behaviour and the green consumer profile: New evidence.*Management Decision, 50*(5), 972-988. http://dx.doi.org/10.1108/00251741211227726

Alba, J. W., & Hutchinson, J. W. (1987).Dimensions of consumer expertise.*Journal of Consumer Research, 13*(4), 411-454. http://dx.doi.org/10.1086/209080

Albers, S. (2010). PLS and success factor studies in marketing.In V. E. Vinzi, W. W. Chin, J. Henseler, & Wang, H. (Eds.), *Handbook of partial least squares: Concepts, methods and applications in marketing and related fields* (pp. 409-425). Berlin: Springer

Alesia, S. G., Stephen, L. S., & Geoffrey, H. T. (2014). Consumption values, environmental concern, attitude and purchase intention in the context of green products. *In: 2014 International Conference of the Association of*

*Global Management Studies. May 20-21, 2014.*Said Business School, University of Oxford, UK.

Allport, G. W. (1935). *Attitudes.In a handbook of social psychology.*Worcester, MA: Clark University Press.

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington D. C.: Author.

Arcury, T. (1990).Environmental attitude and environmental knowledge.*Human Organization, 49*(4), 300-304. http://dx.doi.org/10.17730/humo.49.4.y6135676n433r880

Arfa Adlina, A. (2012). *Malaysia & the collectivist culture: Malaysia studies.*Kolej Yayasan UEM, Malaysia. Retrieved from http://www.slideshare.net/ArfaAyob/malaysia-and-collectivism

Arttachariya, P. (2012). Environmentalism and green purchasing behavior: A study on graduate students in Bangkok, Thailand. *BU Academic Review, 11*(2), 1-11. Retrieved from http://www.bu.ac.th/knowledgecenter/epaper/july_dec2012/pdf/ac01.pdf

Bagozzi, R. P., Yi, Y., & Baumgartner, J. (1990). The level of effort required for behaviour as a moderator of the attitude-behaviour relation. *European Journal of Social Psychology, 20*(1), 45-49. http://dx.doi.org/10.1002/ejsp.2420200105

Bamberg, S. (2003). How does environmental concern influence specific environmentally related behaviors? A new answer to an old question.*Journal*

of Environmental Psychology, 23(1), 21-32. http://dx.doi.org/10.1016/S0272-4944(02)00078-6

Banytė, J., Jokšaitė, E., & Virvilaitė, R. (2007). Relationship of consumer attitude and brand: Emotional aspect. *Engineering Economics, 2*(52), 65-77. Retrieved from http://internet.ktu.lt/lt/mokslas/zurnalai/inzeko/52/1392-2758-2007-2-52-65.pdf

Barber, N., Kuo, P. J., Bishop, M., & Goodman, R. (2012). Measuring psychographics to assess purchase intention and willingness to pay.*Journal of Consumer Marketing, 29*(4), 280-292. http://dx.doi.org/10.1108/07363761211237353

Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modelling: Personal computer adoption and use as an illustration. *Technology Studies, 2*(2), 285-309.

Baron, R. M., & Kenny, D. A. (1986).The moderator-mediator variable distinction in social psychological conceptual, strategic, and statistical considerations.*Journal of Personality and Social Psychology, 51*(6), 1173-1182. http://dx.doi.org/10.1.1.169.4836

Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modelling in marketing and consumer research: A review. *International Journal of Research in Marketing, 13*(2), 139-161. http://dx.doi.org/10.1016/0167-8116(95)0003-0

Beatty, S. E., Kahle, L. R., Homer, P., & Misra, S. (1985). Alternative measurement approaches to consumer values: The list of values and the rokeach value

survey. *Psychology & Marketing, 2*(3), 181-200. http://dx.doi.org/10.1002/mar.4220020305

Becker, B. W., & Connor, P. E. (1981).Personal values of the heavy user of mass media.*Journal of Advertising Research, 21,* 37-43.

Bejou, D., & Thorne, D. (1991).Exploring the differences between recyclers and non-recyclers: The roles of demographics and personal factors.In *Proceeding of the Southern Marketing Association Conference, 91*, 110-115.

Belch, G. E., & Belch, M. A. (2004). *Advertising and promotion: An integrated marketing communications perspective.* Boston: McGraw-Hill.

Belk, R. W. (1974). Situational influence in consumer behavior. Retrieved from https://www.ideals.illinois.edu/bitstream/handle/2142/32584/situationalinflu195belk.pdf?sequence=2

Belk. R. W. (1976). Situational variables and consumer behavior.*Journal of Consumer Research, 2*(3), 157-164. Retrieved from http://www.jstor.org/stable/2489050

Beltramello, A. (2012). Market development for green cars.*OECD Green Growth Papers*.http://dx.doi.org/10.1787/5k95xtcmxltc-en

Bem, D. J. (1970).*Beliefs, attitudes, and human affairs.*Belmont, CA: Brooks, Cole.

Ben-Akiva, M., McFadden, D., Gärling, T., Gopinath, D., Walker, J., Bolduc, D., … Rao, V. (1999). Extended framework for modelling choice behavior.*Marketing Letters, 10*(3), 187-203. Retrieved from http://www.jstor.org/stable/40216534

Bickart, B., & Schindler, R. M. (2001).Internet forums as influential sources of consumer information.*Journal of Interactive Marketing, 15*(3), 31-40. http://dx.doi.org/10.1002/dir.1014

Biel, A., & Dahlstrand, U. (2005). Values and habits: A dual-process model. In S. Krarup & C. S. Russell (Eds.), *Environment, information and consumer behaviour* (pp. 33-50). Cheltenham: Edward Elgar.

Björk, P. (1998). The value of green labels: A consumer perspective. *Liiketaloudellinen aikakauskirja, 47*(3), 273-287. Retrieved from https://www.econbiz.de/Record/the-value-of-green-labels-a-consumer-perspective-bj%C3%B6rk-peter/10001252544

Blattberg, R. C., & Neslin, S. A. (1990).*Sales promotion: Concepts, methods, and strategies.* New Jersey: Prentice Hall.

Bødker, M., Gimpel, G., & Hedman, J. (2009). The user experience of smart phones: A consumption values approach. Paper presented at Global Mobility Roundtable, Kairo, Egypt.

Bolton, R. N., & Drew, J. H. (1991).A multistage model of customers' assessment of service quality and value.*Journal of Consumer Research, 17*(4), 375-384. http://dx.doi.org/10.1086/208564

Bui, M. H. (2005). Environmental marketing: A model of consumer behavior. *Advances in Marketing, 6*(2), 20-28. Retrieved from http://www.acme-fbd.org/Proceedings/ACME_2005_Proceedings.pdf#page=33

Bushman, B. J. (1993). What's in a name? The moderating role of public self-consciousness on the relation between brand label and brand

preference.*Journal of Applied Psychology, 78*(5), 857-861. http://dx.doi.org/10.1037/0021-9010.78.5.857

Candan, B., & Yıldırım, S. (2013). Investigating the relationship between consumption values and personal values of green product buyers.*International Journal of Economics and Management Sciences, 2*(12), 29-40. Retrieved from http://www.managementjournals.org/ijems/212/IJEMSi2n12i1i132577.pdf

Cannis, J. (2001). Green IC packaging.*Advanced Packaging, 8*, 33-38.

Capgemini. (2011). Cars online 11/12: Changing dynamics drive new developments in technology and business models. Retrieved from https://www.ca.capgemini.com/resource-file-access/resource/pdf/Cars_Online_11_12.pdf

Carrete, L., Castaño, R., Felix, R., Centeno, E., & González, E. (2012). Green consumer behaviour in an emerging economy: Confusion, credibility, and compatibility. *Journal of Consumer Marketing, 29*(7), 470-481. http://dx.doi.org/10.1108/07363761211274983

Chairy.(2012). Spirituality, self transcendence, and green purchase intention in college students.*Social and Behavioral Sciences, 57*, 243-246. http://dx.doi.org/10.1016/j.sbspro.2012.09.1181

Chan, K. (2000). Market segmentation of green consumers in Hong Kong.*Journal of International Consumer Marketing, 12*(2), 7-24. http://dx.doi.org/10.1300/J046x12n02_02

Chan, R. Y. K. (2001). Determinants of Chinese consumers' green purchase behavior. *Psychology & Marketing, 18*(4), 389-413. http://dx.doi.org/10.1002/mar.1013

Chan, R. Y. K., & Lau, L. B. Y. (2000). Antecedents of green purchases: A survey in China. *Journal of Consumer Marketing, 17*(4), 338-357. http://dx.doi.org/10.1108/07363760010335358

Chan, R. Y. K., & Yam, E. (1995). Green movement in a newly industrializing area: A survey on the attitudes and behaviour of the Hong Kong citizens. *Journal of Community & Applied Social Psychology, 5*(4), 273-284. http://dx.doi.org/10.1002/casp.2450050405

Chan, Y. L. (2013). Consumers' purchase intention of green products: An investigation of the drivers and moderating variable. *Elixir Marketing Management, 57A*, 14503-14509. Retrieved from http://www.elixirpublishers.com/articles/1367043926_57A%20(2013)%2014503-14509.pdf

Chang, N. J., & Fong, C. M. (2010). Green product quality, green corporate image, green customer satisfaction, and green customer loyalty. *African Journal of Business Management, 4*(13), 2836-2844. Retrieved from http://www.academicjournals.org/AJBM

Chedi,, C. R. (2008). The influence of brand preference on brand image transfer: A research on brand event congruity in sponsorships. Retrieved from http://essay.utwente.nl/856/1/scriptie_Chedi.pdf

Chen, H. S., Chen, C. Y., Chen, H. K., Hsieh, T. (2012). A study of relationships among green consumption attitude, perceived risk, perceived value toward

hydrogen-electric motorcycle purchase intention. *AASRI Procedia, 2*, 163-168. http://dx.doi.org/10.1016/j.aasri.2012.09.029

Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business Ethics, 93*(2), 307-319. http://dx.doi.org/10.1007/s10551-009-0223-9

Chen, Y. S., & Chang, C. H. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision, 50*(3), 502-520. http://dx.doi.org/10.1108/00251741211216250

Chin, W. W. (1998). The partial least squares approach to structural equation modelling. In G. A. Marcoulides (Ed.), *Modern methods for business research*, (pp. 295-336). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Chin, W. W., Marcolin, B. L., Newsted, P. R. (2003). A partial least square latent variable modelling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mall emotion/adoption study. *Information System Research, 14*(2), 189-217. http://dx.doi.org/10.1287/isre.14.2.189.16018

Chinomona, R., Mahlangu, D., & Pooe, D. (2013). Brand service quality, satisfaction, trust and preference as predictors of consumer brand loyalty in the retailing industry. *Mediterranean Journal of Social Sciences, 4*(14), 181-190. http://dx.doi.org/10.5901/mjss.2013.v4n14p181

Chisnall, P. M. (2001). *Marketing research* (6th ed.). Maidenhead: McGraw-Hill.

Choong, E. H. (2013, October 7). Prices of hybrid cars may go up. *The Star Online*.Retrieved from http://www.thestar.com.my/business/business-news/2013/10/07/hybrid-car-prices-may-go-up/?style=biz

Chow, W. S., & Chan, L. S. (2008).Social network, social trust and shared goals in organizational knowledge sharing.*Information & Management, 45*(7), 458-465. http://dx.doi.org/10.1016/j.im.2008.06.007

Choy, J. Y., Ng, C. S., & Ch'ng, H. K. (2011). Consumers' perceived quality, perceived value and perceived risk towards purchase decision on automobile. *American Journal of Economics and Business Administration, 3*(1), 47-57. http://dx.doi.org/10.3844/ajebasp.2011.47.57

Chu, C. W., & Lu, H. P. (2007). Factors influencing online music purchase intention in Taiwan: An empirical study based on the value-intention framework. *Internet Research, 17*(2), 139-155. http://dx.doi.org/10.1108/10662240710737004

Chua, W. Y., Lee, A., & Saalem, S. (2010). Why do people buy hybrid cars? *Social Marketing Forum Paper in University of Western Australia Business School, 13 August 2010*. Perth.

Chuang, P. M. (2007). Malaysia's vibrant retail scence. Retrieved from http://www.asiaone.com/Business/SME%2BCentral/Dollars%2B%2526%2BSense/Story/A1Story20071025-32117.html

City Population.(2011). Malaysia. Retrieved from http://www.citypopulation.de/Malaysia-UA.html

Coakes, S. J., & Steed, L. G. (2003).*SPSS: Analysis without anguish.* Australia: John Wiley & Sons, Ltd.

Cobb, J. (2014). December 2013 dashboard. Retrieved from http://www.hybridcars.com/december-2013-dashboard/

Cobb-Walgren, C. J., Ruble, C. A., & Donthu, N. (1995). Brand equity, brand preference, and purchase intent. *Journal of Advertising, 24*(3), 25-40. http://dx.doi.org/10.1080/00913367.1995.10673481

Cohan, P. S. (2009). Use peer pressure to sell your product. Retrieved from http://www.financialexecutives.org

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Compeau, D., Higgins, C. A., & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study. *MIS Quarterly, 23*(2), 145-158. http://dx.doi.org/10.2307/249749

Compeau, D., Higgins, C. A., Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study. *MIS Quartely, 23*(2), 145-158. http://dx.doi.org/10.2307/249749

Corfman, K. P. (1991). Perceptions of relative influence: Formation and measurement. *Journal of Marketing Research, 28*(2), 125-136. http://dx.doi.org/10.2307/3172802

Crane, A. (2000). Facing the backlash: Green marketing and strategic reorientation in the 1990s.*Journal of Strategic Marketing, 8*(3), 277-296. http://dx.doi.org/10.1080/09652540050110011

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*(3rd ed.). Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston: Pearson.

Crosby, L. A., Gill, J. D., & Taylor, J. R. (1981).Consumers/voter behaviour in the passage of the Michigan Container Law.*Journal of Marketing, 45*(2), 19-32. http://dx.doi.org/10.2307/1251662

D'Souza, C., Taghian, M., Lamb, P., & Peretiatko, R. (2007). Green decisions: Demographics and consumer understanding of environmental labels. *International Journal of Consumer Studies, 31*(4), 371-376. http://dx.doi.org/10.1111/j.1470-6431.2006.00567.x

Daido, K. (2004). Risk-averse agents with peer pressure.*Applied Economics Letters, 11*(6), 383-386.http://dx.doi.org/10.1080/1350485042000228240

Dangelico, R. M., & Pontrandolfo, P. (2010).From green product definitions and classifications to the green option matrix.*Journal of Cleaner Production, 18*(6), 1608-1628. http://dx.doi.org/10.1016/j.jclepro.2010.07.007

Davis, O. (2014). Brand preference: Definition & explanation. Retrieved from http://study.com/academy/lesson/brand-preference-definition-lesson-quiz.html

Deffuant, G., Huet, S., & Amblard, F. (2005).An individual-based model of innovation diffusion mixing social value and individual benefit.*American Journal of Sociology*, *110*(4), 1041-1069. http://dx.doi.org/10.1086/430220

Department of Statistics Malaysia.(2013). *Compendium of Environment Statistics.* Retrieved from http://www.statistics.gov.my/portal/download_Environment/files/Compendium_2013/Compendium_Of_Environment_Statistics_Malaysia_2013.pdf

Devendra, J. (2013). Effects of branding on buying behaviour.*The Macrotheme Review, 2*(7), 156-159. Retrieved from http://macrotheme.com/yahoo_site_admin/assets/docs/14JosMR27.32040732.pdf

Dickson, P. R., & Sawyer, A. G. (1990).The price knowledge and search of supermarket and shoppers.*Journal of Marketing, 54*(3), 42-53. http://dx.doi.org/10.2307/1251815

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991).Effects of price, brand, and store information on buyers' product evaluation.*Journal of Marketing Research, 28*(3), 307-319. http://dx.doi.org/10.2307/3172866

Doorn, J. V., & Verhoef, P. C. (2011). Willingness to pay for organic products: Differences between virtue and vice foods. *International Journal of Research in Marketing, 28*(3), 167-180. http://dx.doi.org/10.1016/j.ijresmar.2011.02.005

Doyle, P. (2002). *Marketing management and strategy* (3rd ed.). Harlow: Pearson Education.

Duarte, P. A. O., & Raposo, M. L. B. (2009). A PLS model to study brand preference: An application to the mobile phone market. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least square* (pp. 449-485). Spinger Berlin Heidelberg.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes.* Orlando, FL: Harcourt Brace Jovanovich College Publishers.

Easterling, D., & Miller, S., & Weinberger, N. (1995). Environmental consumerism: A process of children's socialization and families' resocialization. *Psychology & Marketing, 12*(6), 531-550. http://dx.doi.org/10.1002/mar.4220120606

Edmunds, D. (2013). What are hybrid cars and how do they work? Retrieved from http://www.edmunds.com/fuel-economy/what-is-a-hybrid-car-how-do-hybrids-work.html

Elham, R., & Nabsiah, A. W. (2011).Investigation of green marketing tools' effect on consumers' purchase behavior. *Business Strategy Series, 12*(2), 73-83. http://dx.doi.org/10.1108/17515631111114877

Ellen, P. S., Wiener, J. L., & Cobb-Walgren, C. (1991).The role of perceived consumer effectiveness in motivating environmentally conscious behaviors.*Journal of Public Policy & Marketing, 10*(2), 102-117. http://dx.doi.org/10.2307/30000238

Erskine, C. C., & Collins, L. (1997). Eco-labelling: success or failure? *Environmentalist, 17*(2), 125-133. http://dx.doi.org/10.1023/A:1018552000651

Fauziah Noordin (2009). Individualism-collectivism: A tale of two countries. *Problems and Perspectives in Management, 7*(2), 36-45. Retrieved from http://businessperspectives.org/journals_free/ppm/2009/PPM_EN_2009_02_Noordin.pdf

Fishbein, M., & Ajzen, I. (1975).*Belief, attitude, intention, and behavior: An introduction to theory and research reading.* MA: Addison-Wesley.

Flamm, B. J. (2006). *Environmental knowledge, environmental attitudes, and vehicle ownership and use.*University of California, Berkeley. Retrieved from http://www.uctc.net/research/diss138.pdf

Foley, J. (2003, June 25). *Tomorrow's low carbon cars: Driving innovation and long term investment in low carbon cars.* Retrieved from http://www.ippr.org/files/images/media/files/publication/2011/05/tomorrowslowcarboncars_1282.pdf?noredirect=1

Follows, S. B., & Jobber, D. (2000). Environmentally responsible purchase behaviour: A test of a consumer model. *European Journal of Marketing, 34*(5-6), 723-746. http://dx.doi.org/10.1108/03090560010322009

Fornell, C., & Cha, J. (1994). Partial least squares. In R. P. Bagozzi (Ed.).*Advanced methods in marketing research* (pp. 52-78). Cambridge: Blackwell.

Fornell, C., & Larcker, D. F. (1981).Evaluating structural equation models with unobservable variables and measurement error.*Journal of Marketing Research, 18*(1), 39-50. http://dx.doi.org/10.2307/3151312

Fryxell, G. E., &Lo., C. W. H. (2003). Examination of managers in China.*Journal of Business Ethics, 46*(1), 45-69. http://dx.doi.org/10.1023/A:1024773012398

Full text of PM Najib's budget 2011 speech. (2010, October 15). *The Star Online.* Retrieved from http://www.thestar.com.my/story/?file=%2f2010%2f10%2f15%2fbudget%2f20101015174503

Fulton, D. C., Manfredo, M. J., & Lipscomb, J. (1996). Wildlife value orientations: A conceptual and measurement approach. *Human Dimensions of Wildlife: An International Journal, 1*(2), 24-47. http://dx.doi.org/10.1080/10871209609359060

Gan, C., Han, Y. W., Ozanne, L., & Tzu, H. K. (2008).Consumers' purchasing behavior towards green products in New Zealand.*Innovative Marketing, 4*(1), 93-102. Retrieved from http://businessperspectives.org/journals_free/im/2008/im_en_2008_1_Gan.pdf

Gardyn, R. (2003). Eco-friend or foe? Retrieved from http://adage.com/article/american-demographics/eco-friend-foe/44868/

Gates, R., & Solomon, P. J. (1982). Research using the mall intercept: State of the art. *Journal of Advertising Research, 22*(4), 43-49.

Geisser, S. (1974).A predictive approach to the random effect model.*Biometrika, 61*(1), 101-107. http://dx.doi.org/10.230/2334290

Gensch, D. H. (1987). A two-stage disaggregate attribute choice model. *Marketing Science, 6*(3), 223-239.http://dx.doi.org/10.1287/mksc.6.3.223

Green Purchasing Network Malaysia. (2003). *An introductory study on green purchasing activities in Malaysia.* Retrieved from http://forum.3cdotcom.vn/Flash/resources/malaysia.pdf

Grossnickle, J., & Raskin, O. (2001).*The handbook of online marketing research: Knowing your customer using the Net.* New York, NY: McGraw-Hill.

Grunert, S. C. (1993). On gender differences in eating behavior as compensatory consumption. In J. A. Costa (Ef.), *GCB – Gender and Consumer Behavior* (Vol. 2, pp. 74-87). Salt Lake City, UT: Association for Consumer Research.

Grunert, S. C., & Juhl, H. J. (1995).Values, environmental attitudes, and buying of organic foods.*Journal of Economic Psychology, 16*(1), 39-62. http://dx.doi.org/10.1016/0167-4870(94)00034-8

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010).*Multivariate Data Analysis* (7th ed.). New Jersey: Pearson Prentice Hall.

Hair, J. F., Bush, R. P., & Ortinau, D. J. (2009).*Marketing research: In a digital information environment* (4th ed.). New York, NY: McGraw-Hill.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014).*A primer on partial least squares structural equation modelling (PLS-SEM).* Thousand Oaks, CA: Sage Publications.

Han, H., Hsu, L. T., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management, 31*(3), 325-334. http://dx.doi.org/10.1016/j.tourman.2009.03.013

Hanna, J. G. (1980). A typology of consumer needs. In J. N. Sheth (Ed.), *Research in marketing* (3rd ed., pp. 83-104). Greenwich, Conn: JAI Press.

Hansen, F. (1972).*Consumer choice behaviour: A cognitive theory.* New York: The Free Press.

Hardon, A., Hodgkin, C., & Fresle, D. (2004).How to investigate the use of medicines by consumers. Switzerland: World Health Organization and

University of Amsterdam. Retrieved from http://apps.who.int/medicinedocs/pdf/s6169e/s6169e.pdf

Hartmann, P., &Apaolaza-Ibáñez, V. (2012). Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern. *Journal of Business Research, 65*(9), 1254-1263. http://dx.doi.org/10.1016/j.jbusres.2011.11.001

Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64-105. http://dx.doi.org/10.1037/0033-2909.112.1.64

Heberlein, T. A. (1981). Environmental attitudes.*Journal of Environmental Policy, 2*, 241-270.

Heffner, R. R., Kurani, K. S., & Turrentine, T. S. (2007). Symbolism and the adoption of fuel-cell vehicles.*World Electric Vehicle Association Journal, 1*. 24-31. Retrieved from http://www.its.ucdavis.edu/research/publications/publication-detail/?pub_id=1085

Heilman, C. M., Bowman, D., & Wright, G. P. (2000).The evolution of brand preferences and choice behaviors of consumers new to a market.*Journal of Marketing Research, 37*(2), 139-155. http://dx.doi.org/10.1509/jmkr.37.2.139.18728

Hellier, P. K., Geursen, G. M., Carr, R. A., & Rickard, J. A. (2003).Customer repurchase intention: A general structural equation model. *European Journal of Marketing, 37*, 1762-1800. http://dx.doi.org/10.1108/03090560310495456

Henion, K. E., & Kinnear, T. C. (1976).A guide to ecological marketing.In K. E. Henion & T. C. Kinnear (Eds.), *Ecological marketing.*Columbus, Ohio: American Marketing Association.

Henry, W. A. (1976). Cultural values do correlate with consumer behavior. *Journal of Marketing Research, 13*(2), 121-127. http://dx.doi.org/10.2307/3150845

Hessami. H. Z.& Yousefi, P. (2013). Investigation of major factors influencing green purchasing behavior: Interactive approach. *European Online Journal of Natural and Social Sciences, 2*(4), 584-596. Retrieved from http://european-science.com/eojnss/article/viewFile/251/pdf.

Hickie, J., Konar, E., & Tomlinson, S. (2005). Aligning CSR with power: Two pragmatic strategies for transformational change. Center for Responsible Business Working Paper Series, Paper 26, March 1. Retrieved from http://escholarship.org/uc/item/0j8781bc

Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. *The Journal of Environmental Education, 18*(2), 1-8. http://dx.doi.org/10.1080/00958964.1987.9943482

Ho. L. W. P., Dickinson, N. M., & Chan, G. Y. S. (2010).Green procurement in the Asian public sector and the Hong Kong private sector.*Natural Resources Forum, 34*(1), 24-38. http://dx.doi.org/10.1111/j.1477-8947.2010.01274.x

Holbrook, M. B. (1994). The nature of customer value: An axiology of services in the consumption experience. In R. T. Rust & R. L. Oliver (Eds.), *Service quality: New directions in theory and practice* (pp. 21-71). London: SAGE Publications

Holmbeck, G. N. (1997). Toward terminology, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*(4), 599-610. Retrieved from http://www.unt.edu/rss/class/mike/Articles/Holmbeck_1997.pdf

Homer, P. M., & Kahle, L. R. (1988).A structural equation test of the value-attitude-behavior hierarchy.*Journal of Personality and Social Psychology, 54*(4), 638-646. http://dx.doi.org/10.1037/0022-3514.54.4.638

Hong, Y. H., Gowrie, V., Muhammad Madi, A., & Nasreen K. (2012). A study of hybrid car adoption in Malaysia. In *2nd Annual Summit on Business and Entrepreneurial Studies held in Sarawak, Malaysia, 15-16 October 2012*.

Hong, Y. H., Nasreen, K., & Muhammad Madi, A. (2013). The determinants of hybrid vehicle adoption: Malaysia perspective. *Australian Journal of Basic and Applied Sciences, 7*(8), 447-454. Retrieved from http://ajbasweb.com/old/ajbas/2013/June/447-454.pdf

Honkanen, P., & Verplanken, B. (2004). Understanding attitudes towards genetically modified food: The role of values and attitude strength. *Journal of Consumer Policy, 27*(4), 401-420. http://dx.doi.org/10.1007/s10603-004-2524-9

Honkanen, P., Verplanken, B., & Olsen, S. O. (2006).Ethical values and motives during organic food choice.*Journal of Consumer Behaviour, 5*(5), 420-430. http://dx.doi.org/10.1002/cb.190

Hopper, J. R., & Nielsen, J. M. (1991).Recycling as altruistic behavior: Normative and behavioral strategies to expand participation in a community recycling

program.*Environment and Behavior, 23*(2), 195-220. http://dx.doi.org/10.1177/0013916591232004

Hormuth, S. E. (1999). Social meaning and social context of environmentally-relevant behaviour: Shopping, wrapping, and disposing. *Journal of Environmental Psychology, 19*(3), 277-286. http://dx.doi.org/10.1006/jevp.1999.0134

Hossein, N., Kem, O. K., & Omid, A. (2011). Do consumer based-factors influence consumer buying behavior in automotive industry? Malaysia Evidence.*International Proceedings of Economics Development & Research, 10,* 17-22.

Howard, J. A., & Sheth, J. N. (1969).*The theory of buyer behavior*. New York: John Wiley & Sons

Hoyer, W. D., & McInnis, D. J. (1997).*Consumer behaviour.* Boston: Houghton Mifflin.

Hutchins, D., & Young, W. (2005, October 28). It's not easy being green. *Financial Times.* Retrieved from http://www.ft.com/intl/cms/s/0/ac45c446-474e-11da-b8e5-00000e2511c8.html#axzz3tAFJwYDe

Iman Khalid, A. Q., & Yuserrie, Z. (2011).The impact of media exposure on intention to purchase green electronic products amongst lecturers.*International Journal of Business and Management, 6*(3), 240-248. http://dx.doi.org/10.5539/ijbm.v6n3p240

Institute of Islamic Understanding of Malaysia. (2014). *International seminar on "Science for sustainable development: Islamic Perspectives"*. Retrieved

from http://www.ikim.gov.my/index.php/ms/pengumuman/9057-international-seminar-on-science-for-sustainability-islamic-perspectives-18-19-november-2014-welcoming-address-by-y-bhg-datuk-nik-mustapha-bin-haji-nik-hassan-director-general-institute-of-islamic-understanding-malaysia

International Green Purchasing Network.(2009). Green purchasing. Retrieved from http://www.igpn.org/focus_on/igp_conf_2009/index.html

Ishioka, M., & Yasuda, K. (2009).Product development concept with product sustainability.*Management of Engineering & Technology: Portland International conference held in Portland, OR, 2-6 August 2009* (pp. 1699-1706). http://dx.doi.org/10.1109/PICMET.2009.5261968

Jamal, A., & Al-Marri, M. (2007).Exploring the effect of self-image congruence and brand preference on satisfaction: The role of expertise.*Journal of Marketing Management*, *23*(7-8), 613-629. http://dx.doi.org/10.1362/026725707X2266

Jamaliah, M. Y., Singh, G. K. B., & Rashidah, A. R. (2013). Purchase intention of environment-friendly automobile. *Procedia – Social and Behavioral Sciences, 85,* 400-410. http://dx.doi.org/10.1016/j.sbspro.2013.08.369

Janssen, M. A., & Jager, W. (2002).Stimulating diffusion of green products.*Journal of Evolutionary Economics, 12*(3), 283-306. http://dx.doi.org/10.1007/s00191-002-0120-1

Jarquio, E. (2007). Hybrid car sales continue to improve. Retrieved from http://www.streetdirectory.com/travel_guide/50280/cars/hybrid_car_sales_continue_to_improve.html

Jayawardhena, C. (2004). Personal values' influence on e-shopping attitude and behaviour.*Internet Research, 14*(2), 127-138. http://dx.doi.org/10.1108/10662240410530844

Jayawardhena, C. (2004). Personal values' influence on e-shopping attitude and behaviour.*Internet Research, 14*(2), 127-138. http://dx.doi.org/10.1108/10662240410530844

Jöreskog, K. G., & Sörbom, D. (1996).*LISREL 8 user's reference guide.* Uppsala, Sweden: Scientific Software International.

Kalafatis, S., Pollard, M., East, R., & Tsogas, M. H. (1999). Green marketing and Ajzen's theory of planned behaviour: A cross-market examination. *Journal of Consumer Marketing, 16*(5), 441-460. http://dx.doi.org/10.1108/07363769910289550

Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H. K. (2014).An empirical investigation of green purchase behaviour among the young generation.*Journal of Cleaner Production, 66*, 528-536. http://dx.doi.org/10.1016/j.jclepro.2013.10.062

Karr, D. (2015). The impact of brand on a consumer purchase decision. Retrieved from https://www.marketingtechblog.com/brand-impact-consumer-purchase-decision/

Kassaye, W. W. (2001). Green dilemma.*Marketing Intelligence & Planning, 19*(6), 444-455.http://dx.doi.org/10.1108/EUM0000000006112

Katona, G. (1953). Rational behavior and economic behavior.*Psychological Review, 60*(5), 307-318. http://dx.doi.org/10.1037/h0060640

Katona, G., Strumpel, B., & Zahn, E. (1971).*Aspirations and affluence: Comparative studies in the United States and Western Europe.* New York: McGraw-Hill.

Katz, D. (1960). The functional approach to the study of attitudes.*Public Opinion Quartely, 24*(2), 163-204. http://dx.doi.org/10.1086/266945

Kaufmann, H. R., Mohammad Fateh, A. K. P., & Yianna, O. (2012). Factors affecting consumers' green purchasing behavior: An integrated conceptual framework. *The Amfiteatru Economic Journal, 14*(31), 50-69. Retrieved from http://www.amfiteatrueconomic.ro/temp/Article_1100.pdf

Keller, K, L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing, 57*(1), 1-22. http://dx.doi.org/10.2307/1252054

Kelman, H. C. (1958). Compliance, identification, and internalization: Three processes of attitude change. *Journal of Conflict Resolution, 2*(1), 51-60. Retrieved from http://scholar.harvard.edu/files/hckelman/files/Compliance_identification_and_internalization.pdf?m=1360038929

Kim, H. Y., & Chung, J. E. (2011).Consumer purchase intention for organic personal care products.*Journal of Consumer Marketing, 28*(1), 40-47. http://dx.doi.org/10.1108/07363761111101930

Kim, S., & Littrell, M. A. (1999).Predicting souvenir purchase intentions.*Journal of Travel Research, 38*(2), 153-162. http://dx.doi.org/10.1177/004728759903800208

Kim, Y. (2011). Understanding green purchase: The influence of collectivism, personal values and environmental attitudes, and the moderating effect of perceived consumer effectiveness.*Seoul Journal of Business, 17*(1), 65-92. Retrieved from http://s-space.snu.ac.kr/bitstream/10371/75584/1/05_Yeonshin%20Kim.pdf

Kim, Y., & Choi, S. M. (2005). Antecedents of green purchase behavior: An examination of collectivism, environmental concern, and PCE. *Advances in Consumer Research, 32*(1), 592-599. Retrieved from http://www.acrwebsite.org/volumes/v32/acr_vol32_166.pdf

Klang Valley folk now opting for public transportation to beat jams. (2014, May 13). *The Star Online.*Retrieved from http://www.thestar.com.my/news/nation/2014/05/13/many-going-carless-to-work-klang-valley-folk-now-opting-for-public-transportation-to-beat-jams/

Kline, R. B. (2005). *Principles and practice of structural equation modelling* (2nd ed.) New York: Guilford Press.

Kong, W., Amran, H., Rini Suryati, S., & Jaratin Lily. (2014). The influence of consumers' perception of green products on green purchase intention. *International Journal of Asian Social Science, 4*(8), 924-939. Retrieved from http://www.aessweb.com/pdf-files/ijass-2014-4%288%29-924-939.pdf

Kooi, C. L., Abu Bakar, A. H., Thoo, A. C., & Zhang, D. (2015). Understanding generation Y buying intention toward hybrid car in Johor Bahru.*Sains Humanika, 5*(2), 71-75. Retrieved from http://www.sainshumanika.utm.my/index.php/sainshumanika/article/view/632

Kotabe, M., & Helsen, K. (2004).*Global Marketing Management* (3rd ed.). Hoboken, NJ: John Willey & Sons, Inc.

Kotchen, M. J., & Reiling, S. D. (2000). Environmental attitudes, motivations, and contingent valuation of nonuse values: A case study involving endangered species. *Ecological Economics, 32*(1), 93-107. http://dx.doi.org/10.1016/S0921-8009(99)00069-5

Kraus, S. J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin, 21*(1), 58-75. http:dx.doi.org/10.1177/0146167295211007

Krosnick, J. A. (1988). The role of attitude importance in social evaluation: A study of policy preferences, presidential candidate evaluations, and voting behavior. *Journal of Personality and Social Psychology, 55*(2), 196-210. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/3171904

Lai, A. W. B. (1995). Consumer values, product benefits and customer values: A consumption behavior approach. *Advances in Consumer Research, 22*, 381-388. Retrieved from http://www.acrwebsite.org/search/view-conference-proceedings.aspx?Id=7772

Laoonual, Y. (2013). EV current status in Thailand. Retrieved from http://www.jari.or.jp/Portals/0/resource/pdf/AAI%20Summit/H25/3.%20EV%20TAI.pdf

Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001).Targeting consumers who are willing to pay more for environmentally friendly products.*Journal of Consumer Marketing, 18*(6), 503-520. http://dx.doi.org/10.1108/EUM0000000006155

Lee, C. H., Ling, H. Y., Yeow, J. A., & Hasan, M. A. (2012).Assessing determinants of green purchase intention.*International Procedings of Economics Development & Research, 44*(6), 25-29. Retrieved from http://www.ipedr.com/vol44/006-ICSHH2012-W00006.pdf

Lee, D. S. (2004).Promoting green purchasing to consumers in Korea.*Ist International Conference on Green Purchasing*, Sendai, Japan.

Lee, K. (2008). Opportunities for green marketing: Young consumers. *Marketing Intelligence & Planning, 26*(6), 573-586.http://dx.doi.org/10.1108/02634500810902839

Lee, K. (2009). Gender differences in Hong Kong adolescent consumers' green purchasing behavior.*Journal of Consumer Marketing, 26*(2), 87-96. http://dx.doi.org/10.1108/07363760910940456

Lee, K. L. (2004, October 6). Green purchasing in ASEAN – the role of government.*1st International Conference on Green Purchasing,* Sendai. Retrieved from http://www.city.sendai.jp/kankyou/kanri/icgps-e/pdf/3-1.pdf

Lee, Y. K., Kim, S., Kim, M. S., & Choi, J. G. (2014).Antecedents and interrelationships of three types of pro-environmental behavior.*Journal of Business Research, 67*(10), 2097-2105. http://dx.doi.org/10.1016/j.jbusres.2014.04.018

Leire, C., & Thidell, A. (2005). Product-related environmental information to guide consumer purchases – a review and analysis of research on perceptions, understanding and use among Nordic consumers. *Journal of Cleaner Production, 13*(10-11), 1061-1070. http://dx.doi.org/10.1016/j.jclepro.2004.12.004

Li, L., Geiser, K. (2005). Environmentally responsible public procurement (ERPP) and its implications for integrated product policy (IPP).*Journal of Cleaner Production, 13*(7), 705-715. http://dx.doi.org/10.1016/j.jclepro.2004.01.007

Liao, C. (2011). Predicting consumer intentions to purchase green cars: An empirical test of competing theories. Retrieved from http://www.kotu.oulu.fi/projektit/tiim2011/TIIM%20full%20paperit/Proceedings/Day%202/3rd%20parallel/A34.pdf

Lichtenstein, D. R., Ridgway, N. M., & Netemeyer, R. G. (1993). Price perceptions and consumer shopping behavior: A field study. *Journal of Marketing Research, 30*(2), 234-245. http://dx.doi.org/10.2307/3172830

Lim, M. (2012). Market Watch 2012. *The Malaysian Automotive and Supplier Industry.The German chamber network-MGC.*Retrieved from http://www.malaysia.ahk.de/fileadmin/ahk_malaysia/Market_reports_2012/Market_Watch_2012_-_Automotive.pdf

Lin, P., & Huang, Y. (2012). The influence factors on choice behavior regarding green products based on the theory of consumption values. *Journal of Cleaner Production, 22*(1), 11-18. http://dx.doi.org/10.1016/j.jclepro.2011.10.002

Lin, P., Huang, Y., & Wang, J. (2010).Applying the theory of consumption values to choice behavior toward green products.*Management of Innovation and Technology (ICMIT),* 348-353. http://dx.doi.org/10.1109/ICMIT.2010.5492714

Long, M. M., & Schiffman, L. G. (2000). Consumption values and relationships: Segmenting the market for frequency programs. *Journal of Consumer Marketing, 17*(3), 214-232. http://dx.doi.org/10.1108/07363760010329201

Lung, S. (2010).Green consumerism – The way to effectively differentiate your products in Asia-Pacific market. Retrieved from http://ezinearticles.com/?Green-Consumerism---The-Way-to-Effectively-Differentiate-Your-Products-in-Asia-Pacific-Market&id=4875312

MacKinnon, D. (2008). *Introduction to statistical mediation analysis.*New York: Lawrence Erlbaum Associates.

Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action.*Personality and Social Psychology Bulletin, 18*(1), 3-9. http://dx.doi.org/10.1177/0146167292181001

Mahalingam, E. (2012, January 25). Hybrid vehicle sales in Malaysia to hit all-time high.*The Star Online*. Retrieved from http://www.thestar.com.my/story/?file=%2f2012%2f1%2f25%2fbusiness%2f10386334&sec=business

Mahalingam, E. (2013, July 29). Hybrid vehicle sales seen flat or lower.*The Star Online.* Retrieved from http://www.thestar.com.my/Business/Business-News/2013/07/29/Hybrid-vehicle-sales-seen-flat-or-lower.aspx/

Mahalingam, E. (2014, July 28). Demand for CKD hybrid cars. *The Star Online.* Retrieved from http://www.thestar.com.my/business/business-news/2014/07/28/demand-for-ckd-hybrid-cars-honda-and-mercedes-models-leading-the-pack/?style=biz

Mainieri, T., Barnett, E. G., Valdero, T. R., Unipan, J. B., & Oskamp, S. (1997). Green buying: The influence of environmental concern on consumer behavior. *The Journal of Social Psychology, 137*(2), 189-204. http://dx.doi.org/10.1080/00224549709595430

Malaysia Automotive Association.(2014a). *Market review for 2013 and outlook for 2014.* Retrieved from http://www.maa.org.my/pdf/Market_Review_2013.pdf

Malaysia Automotive Association.(2014b). *National Automotive Policy (NAP) 2014.*Retrieved from http://www.maa.org.my/pdf/NAP_2014_policy.pdf

Malaysia Government (2009).*Green marketing* [Fact sheet]. Retrieved from http://www.unescap.org/sites/def ault/files/31.%20fs-green-marketing.pdf

Malaysia Green Forum 2010. (2010, April 6). Retrieved from http://www.pmo.gov.my/mobile/readspeech.php?id=263

Malaysia's first hybrid MPV. (2013, July 29). *The Sun Daily*.Retrieved from http://www.thesundaily.my/news/783565

Malhotra, N. K., Hall, J., Shaw, M., & Oppenheim, P. (2006).*Marketing research: An applied orientation* (3rd ed.). Frenchs Forest: Prentice Hall.

Maloney, M. P., & Ward, M. P. (1973). Ecology: Let's hear from the people: An objective scale for the measurement of ecological attitudes and knowledge. *American Psychologist, 28*(7), 583-586. http://dx.doi.org/10.1037/h0034936

Marcus, A. A., & Fremeth, A. R. (2009). Green management matters regardless. *Academy of Management Perspectives, 23*(3), 17-26. http://dx.doi.org/10.5466/AMP.2009.43479261

Maslow, A. H. (1943). The theory of human motivation.*Psychological Review, 50*(4), 370-396. http://dx.doi.org/10.1037/h0054346

Maslow, A. H. (1954). *Motivation and personality.*New York: Harper and Brothers.

Maslow, A. H. (1970). *Motivation and personality* (2nd ed.). New York: Harper and Row.

Matthews, B., & Ross, L. (2010).*Research methods a practical guide for the social sciences.* Edinburgh Gate: Pearson Education Limited.

McCarthy, E. J., & Perreault, W. D. (1994).*Essentials of marketing* (6th ed.). IL: Irwin.

McCarty, J. A., & Shrum, L. J. (1994). The recycling of solid wastes: Personal values, value orientations, and attitudes about recycling as antecedents of recycling behavior. *Journal of Business Research, 30*(1), 53-62. http://dx.doi.org/10.1016/0148-2963(94)90068-X

McCarty, J. A., & Shrum, L. J. (2001).The influence of individualism, collectivism, and locus of control on environmental beliefs and behavior.*Journal of Public Policy & Marketing, 20*(1), 93-104. http://dx.doi.org/10.1509/jppm.20.1.93.17291

McDaniel, S. W., & Rylander, D. H. (1993).Strategic green marketing.*Journal of Consumer Marketing, 10*(3), 4-10. http://dx.doi.org/10.1108/07363769310041929

McLeod, S. (2014).Attitudes and behavior. Retrieved from http://www.simplypsychology.org/attitudes.html

Mellens, M., Dekimpe, M. G., & Steenkamp, J. E. B. M. (1996). A review of brand loyalty measures in marketing. *Tijdschrift voor Economie en Management, 41*(4), 507-533. Retrieved from https://lirias.kuleuven.be/bitstream/123456789/119352/1/TEM1996-4_507-533p.pdf

Menon, A., & Menon, A. (1997). Enviropreneurial marketing strategy: The emergence of corporate environmentalism as market strategy. *Journal of Marketing, 61*(1), 51-67. Retrieved from https://faculty.fuqua.duke.edu/~moorman/Marketing-Strategy-Seminar-2015/Session%2012/Menon%20and%20Menon.pdf

Methaq Ahmed, A. S., & Nabsiah, A. W. (2012). Endorser credibility effects on Yemeni male consumers' attitudes towards advertising, brand attitude and purchase intention: The mediating role of attitude toward brand. *International Business Research, 5*(4), 55-66. http://dx.doi.org/10.5539/ibr.v5n4p55

Milfont, T. L. (2007). *Psychology of environmental attitudes: A cross-cultured study of their content and structure.* (Unpublished doctoral dissertation).University of Auckland, Auckland, New Zealand.

Milfont, T. L., Duckitt, J., & Wagner, C. (2010).A cross-cultural test of the value-attitude-behavior hierarchy.*Journal of Applied Social Psychology, 40*(11), 2791-2813. http://dx.doi.org/10.1111/j.1559-1816.2010.00681.x

Ministry of Environmental, Government of Japan. (2007). *Japan's Green Purchasing Policy: Tackling Illegal Logging.* Retrieved from http://www.illegal-logging.info/sites/default/files/uploads/pamph_jgpp.pdf

Ministry of Finance Malaysia.(2013). Estimates of federal government's revenue for the year 2013. Retrieved from http://www.treasury.gov.my/pdf/percukaian/penerbitan/buku_anggaran_hasil_kerajaan_persekutuan_2013.pdf

Ministry of Finance Malaysia.(2014). Estimates of federal government's revenue for the year 2014. Retrieved from http://www.treasury.gov.my/pdf/percukaian/penerbitan/buku_anggaran_hasil_kerajaan_persekutuan_2014.pdf

Ministry of Finance Malaysia.(2015). Estimates of federal government's revenue for the year 2015. Retrieved from http://www.treasury.gov.my/pdf/percukaian/penerbitan/buku_anggaran_hasil_kerajaan_persekutuan_2015.pdf

Ministry of International Trade and Industry.(2014). Media Statement. Retrieved from http://www.miti.gov.my/cms/storage/documents/a74/com.tms.cms.document.Document_ae93e7a5-c0a8156f-72974691-8acceeb8/1/Press%20Statement%20NAP%202014.pdf

Mishra, P. & Sharma, P. (2010). Green marketing in India: Emerging opportunities and challenges. *Journal of Engineering, Science and Management Education, 3*(1), 9-14. Retrieved from http://www.nitttrbpl.ac.in/journal/volume3/Pavan%20%20Mishra%20and%20Ms.%20Payal%20Sharma.pdf

Mohamad Idham, M. R., Asliza, M. Y., Faizah, M., Zainab, A., & Mohd Zailani, O. (2014). Intention to purchase hybrid cars in Malaysia: An overview.

International Journal of Economics, Commerce and Management, 2(10), 1-13. Retrieved from http://ijecm.co.uk/wp-content/uploads/2014/10/21025.pdf

Mohamad Rosli, M., & Fatimah, K. (2028).Malaysia's national automotive policy and the performance of Proton's foreign and local vendors.*Asia Pacific Business Review, 14*(1), 103-118. http://dx.doi.org/10.1080/13602380701661044

Mohd Nazri, M. N., Jayashree, S., & Hishamuddin, I. (2013). Malaysian consumers attitude towards mobile advertising, the role of permission and its impact on purchase intention: A structural equation modelling approach. *Asian Social Science, 9*(5), 135-153. http://dx.doi.org/10.5539/ass.v9n5p135

Mohd Rafi, Y., & Azman, Z. (2011).Customers' awareness, perception and future prospects of green products in Pahang, Malaysia.*The Journal of Commerce, 3*(2), 1-10. Retrieved from http://joc.hcc.edu.pk/articlepdf/joc_3_2_01_10.pdf

Mohd Uzir, M., & Kanageswary, R. (2004).The development of the automobile industry and the road ahead.*Statistics Malaysia – Journal of Department of Statistics, Malaysia, 2*, 1-32. Retrieved from http://www.myjurnal.my/public/article-view.php?id=72935

Morrison, D. G. (1979). Purchase intentions and purchase behavior. *Journal of Marketing, 43*(2), 65-74. http://dx.doi.org/10.2307/1250742

Mostafa, M. M. (2007). Gender differences in Egyptian consumers' green purchase behaviour: The effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies, 31*(3), 220-229. http://dx.doi.org/10.1111/j.1470-6431.2006.00523.x

Muhammad Rizwan, Arslan, A., Mujeeb, R., Naqash, A., Usman, S., & Tehseen, A. (2013). Impact of green marketing on purchase intention: An empirical study from Pakistan. *Asian Journal of Empirical Research, 3*(2), 87-100. Retrieved from http://www.aessweb.com/pdf-files/3%20(2)%2087-100.pdf

Nabsiah, A. W., Elham, R., & Tan, S. S. (2011). Factors influencing the green purchase behaviour of Penang Environmental Volunteers.*International Business Management, 5*(1), 38-49. http://dx.doi.org/10.3923/ibm.2011.38.49

Nabsiah, A. W., Ismail, A. (2014). *Environmental concern: Between consumers' awareness and willingness for attitude change.* Retrieved from http://www.researchgate.net/publication/242144428_ENVIRONMENTALCONCERN_BETWEEN_CONSUMERS'_AWARENESS_AND_WILLINGNESS_FOR_ATTITUDE_CHANGE

Natural Resources Defense Council (2014). Extreme weather: Impacts of climate change. Retrieved from http://www.nrdc.org/globalwarming/climate-change-impacts/

Natural Resources Defense Council.(2009). Global warming solutions. Retrieved from http://www.nrdc.org/globalwarming/solutions/step3.asp

Newhouse, N. (1990), Implications of attitude and behavior research for environmental conservation. *The Journal of Environmental Education, 22*(1), 26-32. http://dx.doi.org/10.1080/00958964.1990.9943043

Nicholls, J. A. F., Roslow, S., Dublish, S., & Comer, L. B. (1996). Relationship between situational variables and purchasing in India and the

USA.*International Marketing Review, 13*(6), 6-21. http://dx.doi.org/10.1108/02651339610151890

Nielson, C. C. (1996). An empirical examination of switching cost investments in business-to-business marketing relationships. *Journal of Business & Industrial Marketing, 11*(6), 38-61. http://dx.doi.org/10.1108/08858629610151299

Nik Ramli, N. A. R. (2009). Awareness of eco-label in Malaysia's green marketing initiative. *International Journal of Business and Management, 4*(8), 132-141. http://dx.doi.org/10.5539/ibjm.v4n8p132

Nor Azila, M. N., Hayatul Safrah, S., Noratisah, M. N., & Azli, M. (2014). Functional food product consumption among Malaysian consumers: The relationship between intention and actual behaviour. In *Proceedings of the Australian Academy of Business and Social Sciences Conference 2014 held in Kuala Lumpur, Malaysia, 25-26 August 2014*. Retrieved from https://www.aabss.org.au/system/files/published/AABSS2014_238.pdf

Nor Azila, M. N., Norsiah, M., Norazuwa, M., Che Zuriana, J., Hayatul Safrah, S., & Azli, M. (2012). Emerging green product buyers in Malaysia: Their profiles and behaviours. *In: 3rd International Conference on Business and Economic Research, 12-13 March 2012.*Golden Flower Hotel, Bandung, Indonesia.

Norazah, M. S. (2013). Green awareness effects on consumers' purchasing decision: Some insights from Malaysia. *International Journal of Asia Pacific Studies, 9*(1), 49-63. Retrieved from http://ijaps.usm.my/wp-content/uploads/2013/07/Art3.pdf

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Nusaibah, M., Siti Norbaya, Y., Nurul Zarirah, N., & Yasuo, H. (2014).Consumers' acceptance towards green technology in automotive industries in Malacca, Malaysia.*International Journal of Business Administration, 5*(1), 27-30. http://dx.doi.org/10.5430/ijba.v5n1p27

Ohtomo, S., & Hirose, Y. (2007). The dual-process of reactive and intentional decision-making involved in eco-friendly behavior. *Journal of Environmental Psychology, 27*(2), 117-125. http://dx.doi.org/10.1016/j.jenvp.2007.01.005

Oliver, J. D., & Lee, S. H. (2010). Hybrid car purchase intentions: A cross-cultural analysis. *Journal of Consumer Marketing, 27*(2), 96-103. http://dx.doi.org/10.1108/07363761011027204

Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing, 63*(4), 33-44. http://dx.doi.org/10.2307/1252099

Olson, J. M., Vernon, P. A., Harris, J. A., & Jang, K. L. (2001). The heritability of attitudes: A study of twins. *Journal of Personality and Social Psychology, 80*(6), 845-860. http://dx.doi.org/10.1037/0022-3514.80.6.845

Ooi, J. M., Kwek, C. L., & Tan, H. P. (2012).The antecedents of green purchase intention among Malaysian consumers.*Asian Social Science, 8*(13), 248-263. http://dx.doi.org/10.5539/ass.v8n13p248

Ottman, J. A. (1992). Industry's response to green consumerism.*Journal of Business Strategy, 13*(4), 3-7. http://dx.doi.org/10.1016/j.jbusres.2006.03.008

Ottman, J. A. (1993). *Green marketing: Challenges & Opportunities for the new marketing age.* Chicago, IL: NTC Publishing Group.

Ottman, J. A. (1998). *Green marketing: Opportunity for innovation* (2nd ed.). Lincolnwood, IL: NTC Business Books.

Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. *Psychological Bulletin, 124*(1), 54-74. Retrieved from https://dornsife.usc.edu/assets/sites/208/docs/Ouellette.Wood.1998.pdf

Overby, J. W., & Lee, E. J. (2006).The effects of utilitarian and hedonic online shopping value on consumer preference and intentions.*Journal of Business Research, 59*(10-11), 1160-1166. http://dx.doi.org/10.1016/j.jusres.2006.03.008

Paço, A. D., & Raposo, M. (2009). "Green" segmentation: An application to the Portuguese consumer market. *Marketing Intelligence & Planning, 27*(3), 364-379.http://dx.doi.org/10.1108/02634500910955245

Pallant, J. (2005). *SPSS survival manual: A step by step guide to data analysis using SPSS for windows* (12th ed.). Australia: Allen & Unwin.

Pandey, A. C., & Pandey, M. K. (2013). Impact of lifestyle on brand preference of buyer behaviour: A case study of Uttarakhand. *International Monthly Refereed Journal of Research in Management & Technology, 2*, 151-165. Retrieved from http://www.abhinavjournal.com/images/Management_&_Technology/Aug13/18.pdf

Paredes, G. M. (2006). Consumer behavior in markets of durable experience goods.*Job Market Paper.* Retrieved from http://www.webmeets.com/files/papers/SAE/2006/350/jmp-mparedes.pdf

Patterson, P. G., & Spreng, R. A. (1997).Modelling the relationship between perceived value, satisfaction and repurchase intentions in a business-to-business, services context: An empirical examination.*International Journal of Service Industry Management, 8*(5), 414-434. http://dx.doi.org/10.1108/09564239710189835

Paul, J., & Rana, J. (2012).Consumer behavior and purchase intention for organic food.*Journal of Consumer Marketing, 29*(6), 412-422. http://dx.doi.org/10.1108/07363761211259223

Peattie, K. (2001). Towards sustainability: The third age of green marketing. *The Marketing Review, 2*(2), 129-146. http://dx.doi.org/10.1362/1469347012569869

Peattie, K., & Charter, M. (2003).Green marketing. In M. Baker (Ed.), *The marketing book* (5th ed.). Butterworth-Heinemann, Oxford.

Peattie, K., & Crane, A. (2005). Green marketing: Legend, myth, farce or prophesy? *Qualitative Market Research: An International Journal, 8*(4), 357-370. http://dx.doi.org/10.1108/13522750510619733

Pereira, J., & Lavendran, G. (2012, December 5). M'sia among the worst global polluters.*Free Malaysia Today.* Retrieved from http://www.freemalaysiatoday.com/category/nation/2012/12/05/msia-among-the-worst-global-polluters/

Peter, J. P., & Olson, J. C. (2002).*Consumer behaviour and marketing strategy* (6th ed.). USA: McGraw-Hill Companies.

Petrecca, L., & Howard, T. (2007, June 22). Eco-marketing a hot topic for advertisers in Cannes.*USA Today*. Retrieved from http://usatoday30.usatoday.com/money/advertising/2007-06-22-cannes-green-usat_N.htm

Phelps, J. E., & Hoy, M. G. (1996). The Aad-Ab-PI relationship in children: The impact of brand familiarity and measurement timing. *Psychology & Marketing, 13*(1), 77-105. http://dx.doi.org/10.1002/(SICI)1520-6793(199601)13:1<77::AID-MAR5>3.0.CO;2-M

Pitts, R. E., & Woodside, A. G. (1983). Personal value influences on consumer product class and brand preferences. *The Journal of Social Psychology, 119*(1), 37-53. http://dx.doi.org/10.1080/00224545.1983.9924440

Polonsky, M. J. (1994). An introduction to green marketing.*Electronic Green Journal, 1*(2), 1-10. Retrieved from http://escholarship.org/uc/item/49n325b7

Poortinga, W., Steg, L., & Vlek, C. (2004). Values, environmental concern, and environmental behavior: A study into household energy use. *Environment and Behavior, 36*(1), 70-93. http://dx.doi.org/10.1177/0013916503251466

Preacher, K. J., & Hayes, A. F. (2008).Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models.*Behavior Research Methods, 40*(3), 879-891. http://dx.doi.org/10.3758/BRM.40.3.879

Pride, W. M., & Ferrell, O. C. *Marketing: Concepts and strategies* (8th ed.). Houghton Mifflin.

Proton expects to product hybrid cars by end-2014. (2013, December 1). *ABN News.* Retrieved from http://news.abnxcess.com/2013/12/proton-expects-to-produce-hybrid-cars-by-end-2014/

Pujari, D., & Wright, G. (1996).Developing environmentally conscious product strategic: A qualitative study of selected companies in Germany and Britain.*Marketing Intelligence & Planning, 14*(1), 19-28.http://dx.doi.org/10.1108/02634509610106205

Punitha, S., & Azmawani, A. R. (2011).Antecedents of green purchasing behavior among Malaysian consumers.*International Business Management, 5*(3), 129-139. http://dx.doi.org/10.3923/ibm.2011.129.139

Ramayah, T., Lee, J. W. C., & Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. *Resources, Conservation and Recycling, 54*(12), 1419-1427. http://dx.doi.org/10.1016/j.resconrec.2010.06.007

Ramlogan, R. (1997). Environment and human health: A threat to all. *Environmental Management and Health, 8*(2), 51-66. http://dx.doi.org/10.1108/09566169710166548

Rashotte, L. (2007). Social influence.In G. Ritzer (Eds.), *Blackwell Encyclopedia of Sociology* (pp. 562-563). New Jersey: Blackwell Publishing.

Renfro, L. A. (2010). Green business operations and green marketing.*Gatton Student Research Publication, 2*(2).

Rex, E., & Baumann, H. (2007). Beyond ecolabels: What green marketing can learn from conventional marketing.*Journal of Cleaner Production, 15*(6), 567-576. http://dx.doi.org/10.1016/j.jclepro.2006.05.013

Rice, R., & Hancock, L. (2005). The mall intercept: A social norms marketing research tool. *The Report on Social Norms, 4*(7), 4-7. Retrieved from http://www.socialnormsresources.org/pdf/MallIntercept.pdf

Ringle, C. M., Wende, S., & Will, A. (2005). SmartPLS 2.0.Retrieved from http://www.smartpls.de.

Rizvi, S. A. T. (2001). Preference formation and the axioms of choice.*Review of Political Economy, 13*(2), 141-159. http://dx.doi.org/10.1080/09538250120036619

Robbins, S. (1993). *Organisational behaviour: Concepts, controversies and applications* (6th ed.). New Jersey: Prentice Hall.

Rokeach, M. (1973).*The nature of human values.*New York: Free Press.

Roscoe, J. T. (1975). *Fundamental research statistics for the behavioural sciences* (2nd ed.). New York: Holt Rinehart & Winston.

Ruiz-Molina, M. E., & Gil-Saura, I. (2008).Perceived value, customer attitude and loyalty in retailing.*Journal of Retail and Leisure Property*, *7*(4), 305-314. http://dx.doi.org/10.1057/rlp.2008.21

Rundle-Thiele, S., & Mackay, M. M. (2001).Assessing the performance of brand loyalty measures.*Journal of Services Marketing, 15*(7), 529-546. http://dx.doi.org/10.1108/EUM0000000006210

Saleh, M. (2014, February 13). Klang Valley's future.*FMT News.* Retrieved from http://www.freemalaysiatoday.com/category/opinion/2014/02/13/klang-valleys-future/

Samuelson, C. D., & Biek, M. (1991). Attitudes toward energy conservation: A confirmatory factor analysis. *Journal of Applied Social Psychology, 21*(7), 549-568. http://dx.doi.org/10.111/j.1559-1816.1991.tb00536.x

Schiffman, L. G., Kanuk, L. L. (1997). *Consumer Behaviour* (6th ed.). NJ: Prentice-Hall.

Schlegelmilch, B. B., & Öberseder, M. (2010). Half a century of marketing ethics: Shifting perspectives and emerging trends. *Journal of Business Ethics, 93*(1), 1-19. http://dx.doi.org/10.1007/s10551-009-0182-1

Schroer, W. J. (2004). Generations X, Y, Z and others. Retrieved from http://www.socialmarketing.org/newsletter/features/generation1.htm

Schultz, P. W., & Zelezny, L. (1999). Values as predictors of environmental attitudes: Evidence for consistency across 14 countries. *Journal of Environmental Psychology, 19*(3), 255-265. http://dx.doi.org/10.1006/jevp.1999.0129

Schultz, P. W., Shriver, C., Tabanico, J. J., & Khazian, A. M. (2004).Implicit connections with nature.*Journal of Environmental Psychology, 24*(1), 31-42. http://dx.doi.org/10.1016/S0272-4944(03)00022-7

Schumacker, R., & Lomax, R. G. (2010).*A beginner's guide to structural equation modelling* (3rd ed.). New York, Routledge: Taylor & Francis Group.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental*

Social Psychology, *25*, 1-65. http://dx.doi.org/10.1016/S0065-2601(08)60281-6

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, *25*(1), 1-65. http://dx.doi.org/10.1016/S0065-2601(08)60281-6

Sekaran, U. (2003). *Research methods for business: A skill building approach*(4th ed.). New York, NY: John Wiley & Sons, Inc.

Şener, A., & Hazer, O. (2008). Values and sustainable consumption behavior of women: A Turkish sample. *Sustainable Development, 16*(5), 291-300. http://dx.doi.org/10.1002/sd.329

Shah, A. (2015).Climate change and global warming introduction. Retrieved from http://www.globalissues.org/article/233/climate-change-and-global-warming-introduction

Shah, R., & Pillai, P. (2012). Consumer's environmental concern & its influence on their purchase intention: SEM approach. *Opinion: International Journal of Management*, *2*(1), 24-31. Retrieved from http://www.cpmr.org.in/opinion/vol2/issue1/Articles/4.pdf

Shamdasani, P., Ong, G. C. L., & Richmond, D. (1993).Exploring green consumers in an oriental culture: Role of personal and marketing mix factors.*Advances in Consumer Research, 20*(1), 488-493. Retrieved from http://acrwebsite.org/volumes/7504/volumes/v20/NA-20

Sharma, P. D. (2015, June 15). The environmentally friendly cars. Retrieved from http://newsnews.perfectinter.net/articles.php?posted_id=1261

Sharp, E. H., Coatsworth, J. D., Darling, N., Cumsille, P., & Ranieri, S. (2007). Gender differences in the self-defining activities and identity experiences of adolescents and emerging adults.*Journal of Adolescence, 30*(2), 251-269. http://dx.doi.org/10.1016/j.adolescence.2006.02.006

Sheeran, P., & Orbell, S. (1999). Implementation intentions and repeated behaviour: Augmenting the predictive validity of the theory of planned behaviour. *European Journal of Social Psychology, 29*(2-3), 349-369. http://dx.doi.org/10.1002/(SICI)1099-0992(199903/05)29:2/3<349::AID-EJSP931>3.0.CO;2-Y

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research, 15*(3), 325-343. http://dx.doi.org/10.1086/209170

Sheth, J. N. (1974). A field study of attitude structure and attitude-behavior relationship. Retrieved from https://www.ideals.illinois.edu/bitstream/handle/2142/27379/fieldstudyofatti116shet.pdf?sequence=1

Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research, 22*(2), 15-170. http://dx.doi.org/10.1016/0148-2963(91)90050-8

Shim, S., Eastlick, M. A. (1998). The hierarchical influence of personal values on mall shopping attitude and behavior.*Journal of Retailing, 74*(1), 139-152. http://dx.doi.org/10.1016/S0022-4359(99)80091-8

Silk, A. J., & Urban, G. L. (1978). Pre-test-market evaluation of new packaged goods: A model and measurement methodology. *Journal of Marketing Research, 15*(2), 171-191. Retrieved from http://ebusiness.mit.edu/urban/papers/prestest%20market%20evaluation%20%28jmr%201978%29.pdf

Simula, H., Lehtimäki, T., & Salo, J. (2009).Managing greenness in technology marketing.*Journal of Systems and Information Technology, 11*(4), 331-346. http://dx.doi.org/10.1108/13287260911002486

Solomon, M. (2007).*Consumer behavior* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Soonthonsmai, V. (2007). Environmental or green marketing as global competitive edge: Concept, synthesis, and implication. *EABR (Business) and ETLC (Teaching) Conference Proceeding.* Venice, Italy.

Stanton, W. J., & Futrell, C. (1987).*Fundamentals of marketing* (8th ed.). New York: McGraw-Hill Book Company

Steenkamp, J. B. E. M., & Geyskens, I. (2006). How country characteristics affect the perceived value of web sites. *Journal of Marketing, 70*(3), 136-150. http://dx.doi.org/10.1509/jmkg.70.3.136

Stone, M. (1974). Cross-validity choice and assessment of statistical predictions.*Journal of the Royal Statistical Society, Series B*

(Methodological), 36(2), 111-147. Retrieved from http://www.jstor.org/stable/2984809

Sudarsan, J., & Urchenna, C. E. (2012).Consumers' adoption of mobile coupons in Malaysia.In I. Lee, (Ed.), *Strategy, adoption, and competitive advantage of mobile services in the global economy* (pp. 90-111). USA: Information Science Reference.

Sun, J., & Willson, V. L. (2008). Assessing general and specific attitudes in human learning behavior: An activity perspective and a multilevel modeling approach. *Educational and Psychological Measurement, 68*(2), 245-261. http://dx.doi.org/10.1177/0013164407308510

Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing, 77*(2), 203-220. http://dx.doi.org/10.1016/S0022-4359(01)00041-0

Sweeney, J. C., Soutar, G. N., & Johnson, L. W. (1999). The role of perceived risk in the quality-value relationship: A study in a retail environment. *Journal of Retailing, 75*(1), 77-105. http://dx.doi.org/10.1016/S0022-4359(99)80005-0

Syaidatina Akila, M. A., & Norazah, M. S. (2013). Consumers' intention to purchase green product: Insights from Malaysia. *World Applied Science Journal, 22*(8), 1129-1134. http://dx.doi.org/10.5829/idosi.wasj.2013.22.08.616

Tan, B. C. (2011). The roles of knowledge, threat, and PCE on green purchase behaviour.*International Journal of Business and Management, 6*(12), 14-27. http://dx.doi.org/10.5539/ijmb.v6n12p14

Tan, B. C., Lau, T. C. (2010). Attitude towards the environment and green products: Consumers' perspective. *Management Science and Engineering, 4*(2), 27-39. http://dx.doi.org/10.3968/j.mse.1913035X20100402.002

Tan, P. (2014). MAA reveals vehicle production & sales data for 2013. Retrieved from http://paultan.org/2014/01/22/maa-2013/

Tan, T. H. (2013). Use of structural equation modelling to predict the intention to purchase green and sustainable homes in Malaysia.*Asian Social Science, 9*(10), 181-191. http://dx.doi.org/10.5539/ass.v9n10p181

Tan, T. T. W., & Chua, M. H. M. (2003).Leveraging on symbolic values and meanings in branding.*Journal of Brand Management, 10*(3), 208-218. http://dx.doi.org/10.1057/palgrave.bm.2540117

Tanner, C., & Kast, S. W. (2003).Promoting sustainable consumption: Determinants of green purchases by Swiss consumers.*Psychology & Marketing, 20*(10), 883-902. http://dx.doi.org/10.1002/mar.10101

Tarn, J. L. M. (1999). The effects of service quality, perceived value and customer satisfaction on behavioral intentions.*Journal of Hospitality & Leisure Marketing, 6*(4), 31-43. http://dx.doi.org/10.1300/J150v06n04_04

Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005).PLS path modeling.*Computational Statistical & Data Analysis, 48*(1), 159-205. http://dx.doi.org/10.1016/j.csda.2004.03.005

Teng, Y. M., Wu, K. S., & Huang, D. M. (2014). The influence of green restaurant decision formation using the VAB model: The effect of environmental

concerns upon intent to visit. *Sustainability 2014, 6*(12), 8736-8755. http://dx.doi.org/10.3390/su6128736

Thaler, R. (1985).Mental accounting and consumer choice.*Marketing Science, 4*(3), 199-214.http://dx.doi.org/10.1287/mksc.4.3.199

The green purchase behaviour marketing essay. (2013). Retrieved from http://www.ukessays.com/essays/marketing/the-green-purchase-behavior-marketing-essay.php?cref=1?cref=1

Tsen, C. H., Phang, G., Haslinda, H., & Merlyn, R. B. (2006).Going green: A study of consumers' willingness to pay for green products in Kota Kinabalu.*International Journal of Business and Society, 7*(2), 40-54. Retrieved from https://www.questia.com/library/journal/1P3-1252980571/going-green-a-study-of-consumers-willingness-to

Tudoran, A., Olsen, S. O., & Dopico, D. C. (2009). The effect of health benefit information on consumers health value, attitudes and intentions. *Appetite, 52*(3), 568-579. http://dx.doi.org/10.1016/j.appet.2009.01.009

Turrentine, T. S., & Kurani, K. S. (2001). Marketing clean and efficient vehicles: Workshop proceedings. *University of California Transportation Center*. Retrieved from http://www.its.ucdavis.edu/research/publications/publication-detail/?pub_id=363

Union of Concerned Scientists. (2013). The hybrid timeline has been retired! Retrieved from http://www.ucsusa.org/clean-vehicles/electric-vehicles/hybrid-timeline#.Vml9aF54RBM

Urbach, N., & Ahlemann, F. (2010).Structural equation modeling in information systems research using partial least squares.*Journal of Information Technology Theory and Application, 11*(2), 5-40. Retrieved from http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1247&context=jitta

Urban, G. L., & Hauser, J. R. (1993).*Design and marketing of new products* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Vaske, J. J., & Donnelly, M. P. (1999).A value-attitude-behavior model predicting wildland preservation voting intentions.*Society & Natural Resources: An International Journal, 12*(6), 523-537. http://dx.doi.org/10.1080/089419299279425

Vazifehdoust, H., Taleghani, M., Esmaeilpour, F., Nazari, K. (2013). Purchasing green to become greener: Factors influence consumers' green purchasing behaviour. *Management Science Letters, 3*(9), 2489-2500.http://dx.doi.org/10.5267/j.msl.2013.08.013

Wang, H. Y., Liao, C., & Yang, L. H. (2013). What affects mobile application use? The roles of consumption values.*International Journal of Marketing Studies, 5*(2), 11-22. http://dx.doi.org/10.5539/ijms.v5n2p11

Wei, X., Qi, Y., & Liu, W. (2015). Customer perceived value as a predictor of on-line clothes loyalty in a Chinese sample. In S. Long & B. S. Dhillon (Eds.), *Proceedings of the 15th Internal Conference on Man-Machine-Environment System Engineering* (pp. 15-20).http://dx.doi.org/10.1007/978-3-662-48224-7_2

Weigel, R. H. (1983). Environmental attitudes and prediction of behaviour.In N. R. Feimer and E. S. Geller (Eds).*Environmental Psychology: Directions and Perspectives.* New York, Praeger.

Werner, P. (2004). Reasoned action and planned behavior. In S. J. Peterson & T. S. Bredow (Eds.), *Middle range theories: Application to nursing research* (pp. 125-147). Philadeliphia, PA: Lippincott, Williams, & Wilkins.

Wessells, C. R., Johnston, R. J., & Donath, H. (1999). Assessing consumer preferences for ecolabeled seafood: The influence of species, certifier, and household attributes. *American Journal of Agricultural Economics, 81*(5), 1084-1089. Retrieved from http://www.jstor.org/stable/1244088

Wetzels, M., Odekerken-Schroder, G., & van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration.*MIS Quarterly, 33*(1), 177-195. Retrieved from http://hbanaszak.mjr.uw.edu.pl/TempTxt/WetzelsEtAl_2009_UsingPLSForAssessingHierachicalConstructModels.pdf

Wheale, P. & Hinton, D. (2007).Ethical consumers in search of markets.*Business Strategy and the Environment, 16*(4), 302-315. http://dx.doi.org/10.1002/bse.484

Williams, P., & Soutar, G. N. (2009).Value, satisfaction and behavioral intentions in an adventure tourism context.*Annals of Tourism Research, 36*(3), 413-438. http://dx.doi.org/10.1016/j.annals.2009.02.002

Williams, R. M. (1979). Change and stability in values and value systems: A sociological perspective. In M. Rokeach (Ed.), *Understanding human values individual and societal* (pp. 15-46). New York: Free Press.

Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin, 24*(1), 1-32. Retrieved from http://marketing-bulletin.massey.ac.nz/v24/mb_v24_t1_wong.pdf

Wong, L. S., Wong, T. S., Wong, K. L., & Lim, J. M. D. S. (2013).Hybrid vehicle adoption – A conceptual study.*Journal of Education and Vocational Research, 4*(6), 165-168. Retrieved from http://ifrnd.org/Research%20Papers/V53.pdf

Wong, M. W., & Mo, H. F. (2013). Automobile purchase intention of consumers in a multiracial society: A hierarchical regression analysis model. *Journal of Applied Business and Economics, 14*(1), 110-119. Retrieved from http://www.na-businesspress.com/JABE/WongWM_Web14_1_.pdf

Woodruff, R. B. (1997). Customer value: The next source for competitive advantage. *Journal of the Academy of Marketing Science, 25*(2), 139-153. http://dx.doi.org/10.1007/BF02894350

Xiao, G., & Kim, J. O. (2009). The investigation of Chinese consumer value, consumption values, life satisfaction, and consumption behaviors. *Psychology & Marketing, 26*(7), 610-624. http://dx.doi.org/10.1002/mar.20291

Yap, B. W., Ramayah, T., & Wan Nushazelin, W. S. (2012). Satisfaction and trust on customer loyalty: A PLS approach. *Business Strategy Series, 13*(4), 154-167. http://dx.doi.org/10.1108/17515631211246221

Yeung, S. P. M. (2004). Teaching approaches in geography and students' environmental attitudes. *Environmentalist, 24*(2), 101-117. http://dx.doi.org/10.1007/s10669-004-4801-1

Young, W., Hwang, K., McDonald, S., & Oates, C. L. (2009). Sustainable consumption: Green consumer behaviour when purchasing products. *Sustainable Development, 18*(1), 20-31. http://dx.doi.org/10.1002/sd.394

Zafir, M. M., & Sheikh Muhamad Hizam, H. S. K. (2013). The effects of commitment, health and occupational stressors on individual productivity: The case of Malaysian research universities. *Asian Journal of Business Research, 3*(2), 12-27. http://dx.doi.org/10.14707/ajbr.130009

Zajonc, R. B., & Markus, H. (1982).Affective and cognitive factors in preferences.*Journal of Consumer Research, 9*(2), 123-131. http://dx.doi.org/10.2307/2489121

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing, 52*(3), 2-22. http://dx.doi.org/10.2307/1251446