

**FACTORS FAVOURING PURCHASE INTENTION OF HYBRID CARS:
AN EMPIRICAL STUDY
IN MALAYSIA**

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ABBREVIATION

HEV	Hybrid Electrical Vehicle
TPB	Theory of Planned Behaviour
NAT	Norm Activation Theory
CO ₂	Carbon Dioxide
CKD	Completely Knocked Down
CBU	Completely Built Up
MAA	Malaysian Automotive Association
PI	Purchase Intention
SI	Social Influence
EA	Environmental Attitude
AW	Awareness of Responsibility
PE	Past Experiences of non-hybrid car
NAP	National Automotive Policy

ABSTRAK

Pemanasan global impak daripada karbon dioksida telah mencapai satu tahap yang amat membimbangkan. Terutamanya pengangkutan jalan raya yang merupakan penyumbang kepada karbon dioksida di dunia. Dengan kemajuan teknologi , banyak produk mesra alam telah wujud di pasaran. Salah satu contohnya ialah kereta hibrid. Kereta hibrid merupakan kereta yang menggunakan gerakan dari enjin dan bateri. Kereta hibrid membantu mengurangkan jumlah pembebasan karbon dioksida ke udara. Maka, thesis ini bertujuan mengkaji faktor yang membawa pengaruh kepada niat pembelian kereta hibrid di kalangan Malaysia. Faktor-faktor yang turut dikaji dalam kajian ini adalah seperti sikap pengguna mesra alam, pengaruh sosial masyarakat, tanggungjawab kesedaran mesra alam dan moderatornya pengalaman pengguna kereta bukan hibrid berdasarkan Teori Tingkahlaku Dirancang (TPB) dan Teori Pengaktifan Norma (NAT). Kaedah kuantitatif digunakan dalam kajian ini dan data dikumpul dari 121 responden yang berwarganegara Malaysia, berumur 17 tahun dan ke atas yang mempunyai lesen kereta dan tidak mempunyai kereta hibrid. Data responden yang dikumpul akan dianalisis dengan menggunakan analisis statistika (SPSS). Keputusan kajian menunjukkan bahawa sikap pengguna mesra alam dan tanggungjawab kesedaran mesra alam adalah saling berkaitan dan ia menunjukkan hubungan positif dengan niat pembelian kereta hibrid. Di samping itu, pengaruh sosial juga menunjukkan hubungan positif dengan niat pembelian kereta hibrid. Pengalaman pengguna merupakan moderator yang sesuai sekali untuk membawa pengaruh kepada niat membeli kereta hibrid. Maka, keputusan analisis ini boleh menentukan faktor yang membawa pengaruh yang ketara kepada niat pembelian kereta hibrid dan dijadikan sebagai panduan kepada pemarkas untuk memasarkan kereta

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ABSTRACT

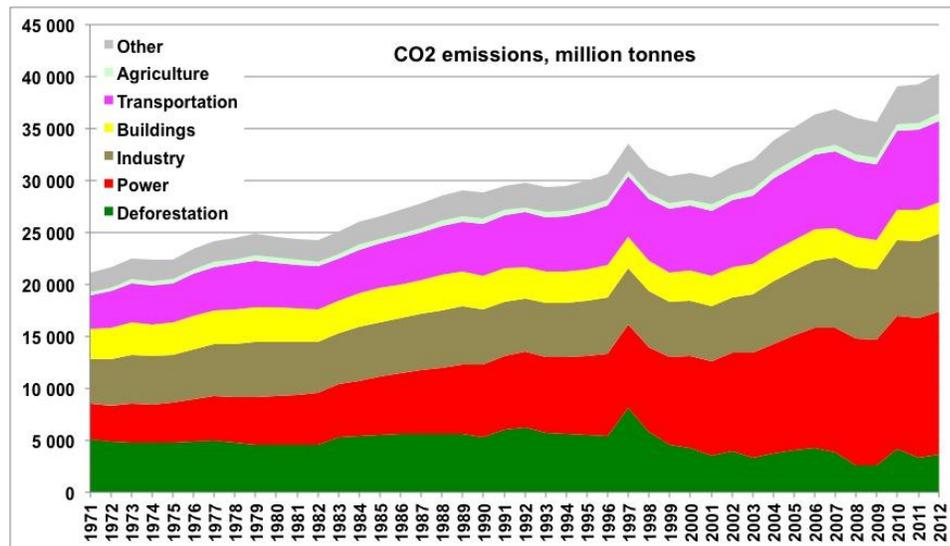
Global warming due to the impact of carbon dioxide has reached an alarming level. Primarily road transport is one of the main contributors to release carbon dioxide in the world. With the advancement of technology, variety of environmental friendly products exists in the market. One of them is the hybrid car; it is powered using combination of engine and battery. It is a promising product to control global warming. Thus, this project of work aims to identify the factors leading to hybrid car purchase intentions among Malaysian nationals. The factors that were examined in this study are environmental attitude, social influence, and awareness of responsibility while the moderating variable is the past experiences of non-hybrid car. The management namely the Theory of Planned Behaviour (TPB) and Norm Activation Theory (NAT) support the framework. Quantitative method is used and data collected from 121 respondents who are Malaysians, aged 17 years and above who have a car driving license plus not owning hybrid car. Respondent's data were analysed using the statistical software SPSS version 22. The finding of this research indicates that environmental attitudes and awareness of responsibility are interrelated and it shows a positive relationship on the purchase intention of hybrid car. In addition, social influence also showed a positive relationship with the purchase intention of hybrid car. The past experiences moderates between independent variables and purchase intention of hybrid car. Hence, the findings are useful to determine the factors that lead to significant influence on purchase intention of hybrid cars and serve as a guide for marketers to market hybrid cars among Malaysians nationals. Finally, some limitations of this research, suggestions for future study and recommendations based on the findings are discussed.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Environmental pollution is a buzz word in today business environment. The growing of global warming an irreversible climate change draws concern from the world's population (Michael Beliveau, 2010). Earth's climate begins to transform by sign through the polar ice caps drastically shrink and flooding in coastal area. It is only been with the past few decades that society has start realize the changes and take concern on it. Amongst the most notable pollutant producer are automobiles as shown in the Figure 1.1.1 Automobiles are powered by internal combustion engines and release out unhealthy emissions which known as carbon dioxide.



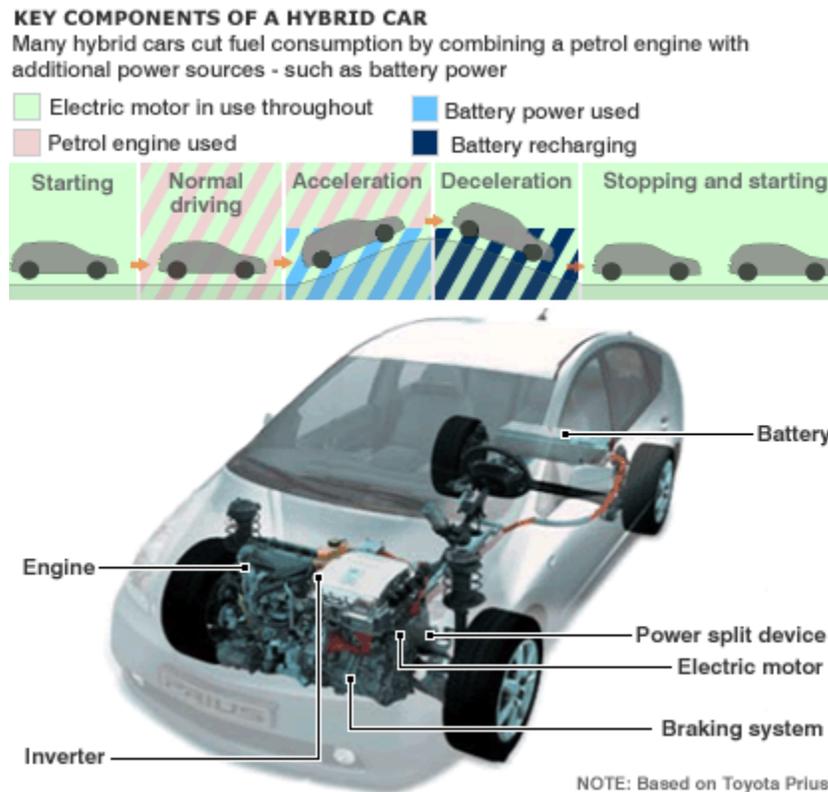
Sources : BP statistical Review 2013

Figure 1.1.1: CO₂ emissions by activity since 1971

Increasing number of automobile traffic brought severe environmental problems with the fuel consumption and gas emission (Cerovsky & Mindl 2008). The expected growth of automobile will grow much rapidly than grow of earth inhabitants. From the study, population may grow from 6 to 10 milliards that mean 1.7 times in between years 2000 to 2050 while there is a study forecast vehicle number will increase from 0.7 to 2.5milliards which is 3.6 times (Cerovsky & Mindl 2008). The rapid growing of car number brought ecological issue other than traffic jam especially in urban area. Automobile products approximately a half of the total world production of CO₂ and it became a hot issue in international discussion.

Engineer, Ferdinand Porsche have seen the problem of the un-controllable situation, then he come out with the first hybrid electric vehicle (hybrid car) or so called hybrid car in the early of 19th which called System Lohner Porsche Mixte. Hybrid car seem like a miracle in automotive wizardry of the 21st century, powered through combination of gasoline and electric motors in a vehicle, shown in Figure 1.1.2. It has at least two sources of propulsion, mechanical (conventional motor) and another is electrical motor (Satti, 2013). The combination enhance conventional engine operate more efficiently and reduce the fuel use through aid of electric motor. In the meantime the gasoline fuel overcomes the limited driving speed of electric car. Both are complementary. The gasoline engine will turn off when stopped and fully rely on electrical motor. This will save the consumption of fuel and reduce the CO₂ emission. The electricity is store in the battery during brake which known as regenerative braking system. For hybrid car, regenerating braking system will responsible to take over some of the stopping duties from the friction brakes instead of using the electrical motor.

Electrical motor operates as a generator recovering some of the kinetic energy and converting it into electricity to charge the battery so that can be used to supply the car when totally stop. Hence, Hybrid car becomes the preferred choice because of the increasing of fuel price and global warming awareness (Wong, 2013).



Sources: John, 2010

Figure 1.1.2: Working of Hybrid car-Toyota Prius

After gone through few year study and improvement, hybrid car were produced well and enter the market in 1910s using the Mixte Technology. However the sale is not as expected. The sale is poor due to the premium price and less performance than conventional car. Over the next 100 years, automobile manufacturers spent billions of dollars on hybrid technology research and development. So far, no such vehicles could both reduce the world’s dependence on fuel and compete with gasoline vehicles on price

and performance. It is really a great innovation which benefit to modern society. Hence, most of the country starts beware of the serious of pollution cause by automobile. They begin to introduce related legislation to encouraged greater use of electrical vehicles in an attempt to ameliorate the air pollution circumstance. In 2000, Toyota have launched her first hybrid Prius Sedan in United States, it gave the hybrid technology the foothold it was looking for. The Prius has become synonymous with the term of hybrid. It is the most successful hybrid electrical vehicle ever produced. Motor Trend Magazine and the North American Auto Show awarded Toyota Prius as 2004 Car of the Year. Prius surprised by the demand and pump up its production from 36000 to 47000 for the U.S.A market. President Jim Press, the Toyota Motor Sales for U.S.A, tag it as the hottest car in market.

In this era of growing environmental awareness, the Prius may be meeting with some competition. Honda launched the second generation Insight, Chevrolet released the Volt and Ford introduces its first SUV hybrid-Escape. As hybrid technology continue improve, it will continue developing an even stronger foothold in the world's auto market. No matter how the future holds, one thing is certain, auto manufactures will keep developing and building hybrids, just as they have all long.

1.2 Global Scenario of Hybrid Car

Nowadays, the world depends seriously on transportation media in order to reach the certain destination. The transport sector has to be keen of the demand and come out with salient automobiles to keep up with the demand. Consumer more concern on low fuel consumption, affordable, low emission, more secure, recyclable, fewer mechanical problems, ease of driving with lots of electronics and peace of mind. Cars become a basic necessity and form part of our daily routine life. Due to intense competition from manufacturer around the world, car industry has evolved rapidly and facing difficulty in choosing the right car.

In the near future, market analysts strongly believe that hybrid cars will replacing gasoline powered vehicles, become the new trend in automobiles industry. The first hybrid car was mass produced for the Japanese and American market in the year of 2000; they never thought that it would gain so much popularity. Due to the increase in price of the crude oil and its possible shortage in the next few decades, hybrid technology has become the preferred solution. It been adopted more rapidly in order to limit the disaster, considering the dependence on transport around the world. The future appears gloomy for mankind if we still remain and did not take any initiative for the global warming. Hybrid car market has limited presence since it is a nascent industry which less people involve in. However, rising size of the market success motivate manufacturers targeting this market in accelerating their development strategies. On the global level, the US dominates the hybrid sales followed by Japan and Europe, while Toyota and Honda lead the bandwagon of global car makers. Currently, only few manufacturers are dominating the global hybrid industry but a number of large manufacturer are queuing up to enter the market.

It is believed worldwide demand for hybrid-electric vehicles (hybrid cars) will advance rapidly from 1.6 million units in 2010 to 4.3 million units in 2015 and then to nearly double that number by 2020. Based on study of US Energy Information Administration 2007, fuel efficient and environmentally friendly vehicles are expected to rapidly penetrate the world light vehicle market in response to rising energy demand. This led to erratic fuel prices; and increased emissions regulations worldwide (OICA, 2008). In addition, number of new hybrid car models being offered consumers is increasing in the market. In spite of that, sales of hybrid car aren't keeping pace in a new study. Possibly is due to hybrid cars are considerably higher price than conventional vehicles. Besides, according to researchers IHS Polk, the sales of hybrid cars actually declined in the first quarter on 2014 compared to last year, 23% of hybrid market shares this year, down from 55.3% in 2011. Toyota has success broadened its Prius line up to five models, with the incentive they manage to account for 40% of the total hybrid market. While in Australia, a study found hybrids currently account for only 1 per cent of overall vehicle sales, with about 12,000 sales last year. Electric vehicles account for an even smaller percentage, amounting to 188 sales in 2013. Western Europe, hybrid car representing a 1.4% market shares of new car sales in the region on first nine months of 2013, over 118,000 hybrids were sold. Automobiles manufacturer are turning to hybrids as a way to support the government's tougher fuel-economy standards. However, the systems are costly because of their complexity, and their highest costs are often passed on to buyers. Maruti Suzuki in India has announced in The Economic Times (22 Sept 2014), they are working on a low cost hybrid car to make it cheap to own cars even more frugal than conventional car. Maruti is aiming to make hybrids affordable and

wants to offer the technology on cars right from the Alto, the cheapest in its product portfolio, to the Swift premium hatchback over the next three to four years, said people with knowledge of the carmaker's plans. In the process, it is taking the 'Kitna Deti Hai' (how many miles does it give) slogan to the next level. Maruti's hybrid solution could deliver 20-30% more fuel economy.

Hybrid car technology still has a lot of places to fill up. Obviously that is good of the something ambitious and this ambition has worked out really well for so far. It is believe hybrid car will deployed throughout the world in the near future.

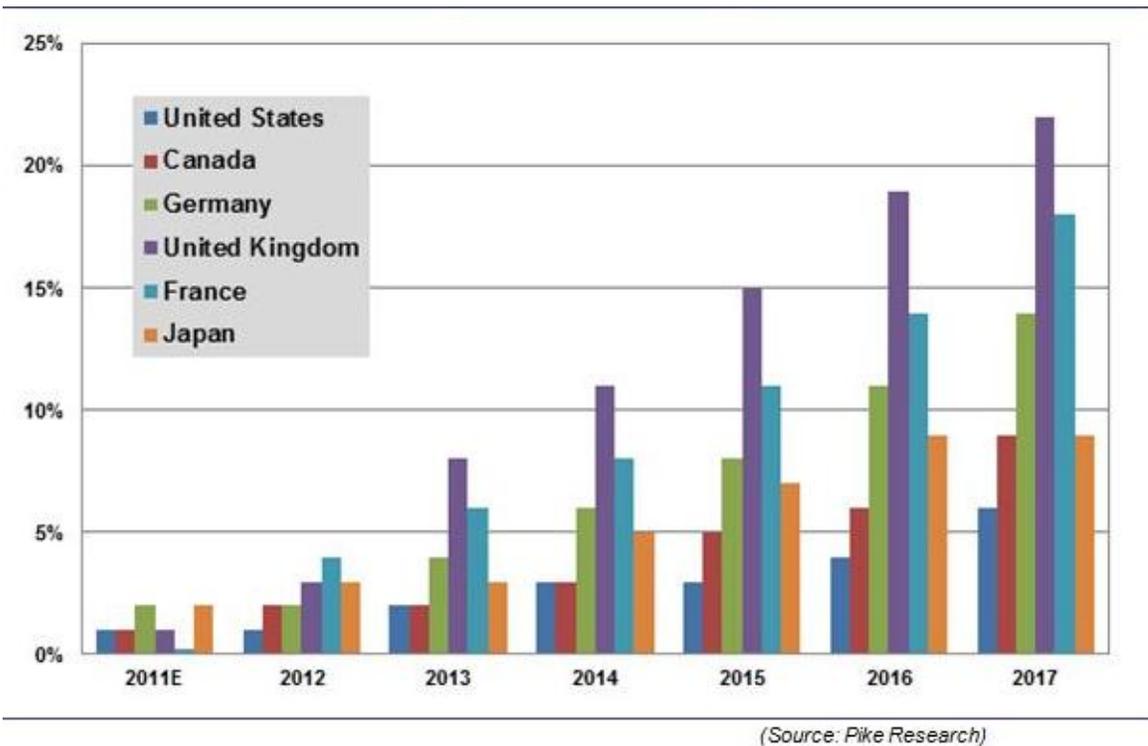


Figure 1.2.1: Percentage sales of HEV/PHEV/BEV in world markets

1.3 Malaysia context of Hybrid Car

Global warming becomes a hot discussion around the world. Countries around the world include Malaysia government are working drastically in the awareness of global warming and reducing the CO₂ emission by highly promoting the adoption of electric or hybrid car among Malaysian. Malaysia government introduces exemptions of import duty and excise duty for hybrid car in Budget 2011. Consumer look to purchase a hybrid car due to money saving, reduce in pollution and help end dependency of natural resource petrol. Automobile company in Malaysia would believe that hybrid car will be the future of the auto industry.

Sales of hybrid car in Malaysia are expected to rapidly rise in the next few years, mainly due to grow popularity of hybrid car, Malaysia government incentive in extended tax, increasing consumers awareness of hybrid cars and bright new innovative model introduces by car manufacturers. According to Malaysian Automotive Association (MAA), hybrid car have enjoyed tremendous sales growth in the past few years after the introducing of import duty exemption and excise duty by Malaysian government under Budget 2011. The incentive is apply for both completely knocked down (CKD) hybrid cars and imported completely built up (CBU) hybrid cars. From the study, sales of hybrid car in 2010 were negligible before the exemption with just 322 units recorded while this change dramatically in 2011, with sales surging to 8403 units. It increased twofold to 15355 units in 2012 due to more hybrid models were introduce in the market. According to data by the Malaysian Automotive Association (MAA), in 2013, 18,967 units of hybrids were success sold, which recorded a 23.5% increase from the 15,355 units sold in 2012. The bulk of the sales were contributed from Honda and Toyota, which sold 8,550

units and 5,789 units, respectively, last year. Hybrid car in Malaysia automotive market still considered as nascent area unlike others development countries such as Europe, United States or in Japan. Table 1.3.1 and Table 1.3.2 below show the summary of all vehicles registered in Malaysia for the year of 1980 to June of 2014 and summary of hybrid cars registered in Malaysia for year 2012 to 2013.

Table 1.3.1: Summary of new passenger & commercial vehicles registered in Malaysia for the Year 1980 to June 2014

Year	Passenger Cars	Commercial Vehicles	4x4 Vehicles	Total Vehicles
1980	80,420	16,842	-	97,262
1985	63,857	26,742	4,400	94,999
1990	106,454	51,420	7,987	165,861
1995	224,991	47,235	13,566	285,792
2000	282,103	33,732	27,338	343,173
2005	416,692	97,820	37,804	552,316
2006	366,738	90,471	33,559	490,768
2007	442,885	44,291	-	487,176
2008	497,459	50,656	-	548,115
2009	486,342	50,563	-	536,905
2010	543,594	61,562	-	605,156
2011	535,113	65,010	-	600,123
2012	552,189	75,564	-	627,753
2013	576,657	79,136	-	655,793
YTD JUNE 2014	296,779	36,363	-	333,142

Source: Malaysian Automotive Association (MAA)

Table 1.3.2: Summary of hybrid cars registered in Malaysia for the Year 2012 and 2013.

DATA ON HYBRID CARS SOLD IN MALAYSIA YTD DEC 2013						
NO.	MAKE	JAN - DEC		VARIANCE		REMARKS
		2013	2012	UNIT	%	
1	AUDI	1907	0	1907	0.0%	started since Feb 2013
2	BMW	4	0	4	0.0%	started since Feb 2013
3	HONDA	8550	8712	-162	-1.9%	
4	LEXUS	709	979	-270	-27.6%	
5	PORSCHE	0	11	-11	-100.0%	
6	NISSAN	2008	0	2008	0.0%	
7	TOYOTA	5789	5653	136	2.4%	
	TOTAL	18967	15355	3612	23.5%	

Source: Malaysian Automotive Association (MAA)

According to Malaysian Automotive Association (MAA), numbers of hybrid cars have enjoyed gigantic sales growth in the past few years after introduce the exemptions. However the total sales in Malaysia still considering low compare to Non-hybrid car. According to MAA, hybrid car sales in 2013 only occupy 2.85% of total amount of car sales in Malaysia. It shows the low penetration rate on hybrid car in Malaysia. The sluggish growth in sales may discourage automobile manufacturing from advancing in this market. Followed, earlier on 2014, National Automotive Policy (NAP) was unveiled the new policy for tax exemption on energy efficient vehicles (EEVs) and electric vehicles (EVs). The duty exemption which introduce under Malaysia Budget 2011 is removed and exemption will only be given to locally assembled or completely-knocked-down (CKD) hybrid and electric cars. As result, hybrid car sales fell 11.7% in the first six months of 2014 to 6,007 units from 6,803 units in the previous corresponding period. Malaysian market may take a little more time for hybrid cars to be popular. It is becoming popular now compared with two to three years ago. The awareness is slightly

increase and people begin to conscious more about petrol saving and environmental impact. There is a positive view on hybrid car market for Malaysia.

1.4 Research Gap

Global Warming is considerable growth in the change of climate temperature of the earth within a short period of time due to human action. Global warming could bring to arctic ice thinning and causing the rise of sea level, as well as other extreme weather such as floods, hurricanes etc. In the 21th century, climate change is a significant problem and great deals have to be done in order to turn things around for future generations. Conventional vehicle is the most notable air pollutant producer. Hence vehicle producers have been forced to come out with new technologies to reduce the level of hazard gas emissions that spew to the air.

Hybrids innovative technology will be the alternative energy solution in order to reduce the risk of global warming. Hybrid cars lead to environmental protection and safety. It is clearly contribute to global warming by reducing the emission of carbon dioxide. Furthermore, hybrid cars save the fuel consumption and present better mileage due to hybrid engine uses the power from battery and not gasoline when accelerating. Furthermore, hybrid motors shut off gasoline engine during the car is stopped and running on with their electricity from battery. Hybrid cars powered with combination of electric motor and gasoline engine. The aid of the electric motor lets the gasoline engine work less, which more fuel saver and lowers emissions of gas pollution release into the air. Hybrid cars use far less fuel than conventional cars do and able reduce smog by ninety per cent.

Although there are undeniable range of advantages hybrid cars offer, however hybrid cars sales in 2013 only occupy 2.85% of total amount of vehicles sales in Malaysia. It shows the low penetration rate in Malaysia's market. The sluggish growth in sales may demoralize automobile industry from advancing the market.

1.5 Problem Statement

Preservation of ecosystem for humans and environment determine the quality of life for the present and future generations (Tsen, 2006). Amongst the most notable air pollutant producer are automobiles. Temperature of the world is going up by 2 Degree Celsius every year on the average because of the climatic changes and too much emission of CO₂. Based on Beliveau (2010), Cars contribute for almost 25% of CO₂ emission in the world. With the growing of Malaysia population and more than half of them live in urban area are relying on transportation for daily usage. The huge number of car have attributed to urban pollution level, in the bigger picture of global warming. In order to stop or slow down the global warming due to emission of CO₂, a revolution technological-hybrid car, considered as the most innovative product in automotive industry (Yong, Nasreen Khan & Muhammad, 2012), The Malaysian government already initiated national key research focused on research related to environment concerns.

Malaysia is emphasizing on greener and cleaner Malaysia concepts. Hybrid cars believe to be promising product to resolve the issue of global warming. However, Malaysia has retracted the exemption of hybrid cars' import and excise duty in the year 2013. Hence, price of hybrid car is much higher than the conventional car and affordability become the main concern. Hybrid car is only afforded by those high income

groups of consumer and it is become a hindrance for consumers to have purchase intention of hybrid cars.

Awareness of responsibility has become an ever significant criterion in today's society in order to bring to greener Malaysia and cleaner Malaysia. However, Malaysians still have lesser awareness of greenhouse effect which is one of the reasons the sales of the hybrid cars is slow, only occupy 2.85% of total car sales in Malaysia. Hybrid car tend leads to environmental protection and safety, but Malaysian are less in approaching the information of global warming and greenhouse effect. According Beliveau (2010), hybrid cars are in the rate to protect and save our environment with projection ranging from outstandingly to marginally. Most of the resource support hybrid cars causing significant less pollution to environment than the conventional cars.

In addition there is insufficient stimulus for consumers to choose hybrid car over standard combustion engine car due to less information approach of the hybrid car causing the sales remain static. Malaysians are unfamiliar with the benefits and innovation technologies of the hybrid car which fail to bring good perceived views in order to influence each other for make an order decision. In fact, hybrid car not only lead to environment protection, it also reduces the fuel consumption and provide better mileage. In order to react with the global warming, only alternative people can think of is to utilize optimally solar energy, non-petrol consume automobile such as bicycle and hybrid car which will definitely reduce all type of pollution to environment. Hybrid car indicated as environmental preservation due to fuel saver (Heffner, 2007). There is lots of factors influencing the purchase intention of hybrid cars. Hence, the research is

conducted to determine the high potential factors and explore options for marketing strategy to increase the demands for the hybrid cars in Malaysia.

1.6 Research Objectives

In today's business world, environmental issues play a vital role in marketing decision. Environmental degradation and its impact of human life emerged as one of the burning issue drawing attention industrialist, academicians and research scholars all across the world. Market demand will drive hybrid cars manufactures either drop off or advancing in the market. Thus, there is a motivation to carry on a study on purchase intention of hybrid cars to identify the main factor that strongly influences the consumer to make decision on purchase. So that the manufacture able to produce the hybrid cars that needs by consumer while marketing teams able to come out with strategy which success to promote the car and increase the sales in Malaysia's automotive market.

Thus the objectives for this research are:

1. To identify the influence of environmental attitude towards purchase intention of hybrid car.
2. To identify the relationship between social influence and purchase intention of hybrid car.
3. To identify the relationship between awareness of responsibility and purchase intention of hybrid car.
4. To identify moderating effect on independent variables toward purchase intention of hybrid car.

1.7 Research Questions

1. Does environmental attitude influence the purchase intention of hybrid car?
2. Does social influence affect the purchase intention of hybrid car?
3. Does awareness of responsibility influence the purchase intention of hybrid car?
4. Do past experiences on non-hybrid car moderate the relationship between independent variables and the purchase intention of hybrid car?

1.8 Significant of Study

In different industries, many empirical researches have been done based on the intention in purchasing green product. However, there are fewer research is focusing on Malaysian and hybrid cars. This study will make contributions to the marketer by providing useful information on intention of Malaysian in purchasing hybrid car and its determinants factors. The closer the move to understand the root cause of individual to purchase hybrid car, the more able the marketers to develop Malaysian car manufacture will also benefit from this study as this study would be able to shed some light on the level of marketing strategy of the company and the best practices. Tailoring marketing mix strategies by emphasizing the most important element will definitely help to increase their market penetration. Marketers can adopt the results to aid in segment their market according to the consumer behaviour that influence the intention to purchase hybrid car. In addition, the result of study may contribute to the reduction in global warming as well as theoretical development.

1.9 Definition of Key Term

In order to have better understanding on the research that conduct, the important key term are provided in this section.

Hybrid car

Hybrid vehicle is a multiple fuel utilization alternatives (Byrne & Polonsky, 2001). It can be made by various combinations of power generations units that allow flexibility in engine use (Matsumoto, et al.,1997). Example of hybrid cars that commonly found in Malaysia is Honda Insight and Toyota Prius.

Social Influence

The degree to which an individual perceives that it is important others believe he or she use the new system (Ajzen, 1991)

Past Experience

Past experience is referred to the series of events that an individual has been purchasing the products in the past, which the duration can be measured in number of years (Amador et al., 2013).

Awareness of responsibility

Environmental awareness consist of both cognitive and affective perception base component (Kollmuss and Agyeman, 2002).

Environmental Attitude

Attitude is referred to the complex construct which consist of the separate cognitive and affective elements. Predictions will be better for taking into consideration the two components concurrently compared to taking any single dimension (Arvola et al., 2008). The evaluation of a product and the behaviour on a product by the basis of disposition is related to the attitude of the consumers towards environment (Mostafa, 2009).

Green product

A product that contains recycled materials, reduces waste, conserves energy or water, uses less packaging, and reduces amount of toxics disposed or consumed” (Nimse et al., 2007)

Purchase Intention

The purchase intention refers to the possibility for consumers to purchase products. It is related to the willingness to purchase. It indicates what products one wish to purchase in the future. After consumer’s general evaluation of a product, the perceptual reaction is taken towards one ;’s intention to an object. The subjective judgment also involved the purchase intention in future. Purchase intention can be interpreted as the attempt to buy a product. It may also involve the decision to purchase the products again (Lin & Lu, 2010).

1.10 Organization of Remaining Chapter

This thesis comprised of total 5 chapters. The abstract is placed in front of the 1 This chapter, Chapter 1 is related to the introduction of the topic, background of the study and significance of the study. In addition, it also includes problem statement, research question and research objective.

Secondly, Chapter 2 is about the review of the literature about the topic from academic journals in previous studies. Theoretical framework is inferred and relevant hypothesis is generated following previous studies.

Thirdly, Chapter 3 expounded about the research design which encompass population, sampling size and method. The statistical analysis that will be used following data collection method is established too. The measurement of variables besides the expected findings is highlighted too.

Following that, Chapter 4 discuss about the findings following data analysis. The results comprised of profiles of respondents, descriptive analysis, convergent validity and discriminant validity, measurement model and structural model.

Finally, Chapter 5 explains on the findings of results following analysis in previous chapter. The implication of study is discussed with limitation of the study. Further suggestions for future research are stated in view of the limitation of the study.

1.11 Summary

The explanation of this study has covered the factor influencing the intention to purchase hybrid car and contribute the marketing strategy for automobile marketer. The problem statement, research objective and significant of study has explained.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will present intensive review of previous literature in the domain of intention to purchase hybrid car, which form the foundation for this study. As such, this chapter will give an overview and understanding the domain of the plethora researches related to this study. Then, based on strong theoretical background, theoretical framework is developed. A set of corresponding hypotheses are then developed in order to address research objectives of this study.

The literature review begins with a general review of relevant study on purchase intention of hybrid car. Followed by few variables which found influencing customer' intense to purchase hybrid car. Such as consumer's environmental attitude, social influence, awareness of responsibility and past experiences on non-hybrid car. To ease for reference, there will be a content analysis which summarizes all the literature review at the end. Next, the relationship in between the variables will be explained in order to answer the research questions. Apart from that, this chapter reviews the underlying theories that guiding this study. Theory Planned Behaviour (TPB) and Norm Activation Theory (NAT). Most important, this chapter discusses, clarify and justify the rationales behind the development of theoretical framework and hypotheses.

2.2 Relevant of the Study

Green products or environmentally friendly products are designed to minimize the environmental impact. Consumers will give the products more favourable evaluations when the company efforts toward environmental sustainability (Brown and Dacin, 2006). The introduction of hybrid technology in the past decade was the first success step towards turning the world population into a more emissions conscious and fuel saver society.

However, a variety of factors that may influence the growth rates of hybrid car. Hybrid cars only account for 3.26% (hybridCars.com and Baum & Associates, a Michigan-based market research, 2014) of all vehicle sales in US. Oliver Seung & Hee Lee (2010), study on hybrid car purchase intentions with a cross cultural analysis which found that propensity to seek information and self-image congruence about green products have positive relationship with intentions to purchase hybrid car among consumers from US and Korea. Apart, there is weak relationship in between perceived social value associated with the consumption of hybrid cars among US and contrary to expectations, Korea consumers. In contrast, social value associated with green products, in general, has a positive relationship with Korean consumer hybrid purchase intentions. This argument is further substantiated by the study of Kim and Choi (2005), which found environmental concerns have a strongly influence on the customer purchasing intention of green products. However, contrary findings from studies in Malaysia context, environmental attitudes not necessary will influence consumer purchase intention. Besides, there are study from Ozaki and Sevastyanova (2010), consumer willingness and

social norm to comply with norms of their groups able to influence their purchase decision. This is further support by Hickie et al. (2005) who found that others perceive consumer use of products is probably to be a significant factor in purchase intention. Furthermore there is study show positive relationship between awareness of responsibility and consumer decisions (Mourad, 2012). Nevertheless, study of Liebe et.al (2010) concludes that the awareness of responsibility has no significant impact on the willingness to pay for pro-environmental product.

The result of analysing hybrid car, both from technical and consumer standpoint lead to numerous of questions regarding to the significance of hybrid technology. This allowed relevant association or research group to study and determine a better approach with future development and sales of hybrid car.

2.3 Independent Variables

2.3.1 Environmental Attitude

Basically, attitude is explained as an individual positive or negative feeling about performing a specific kind of behaviour (Fishbein & Ajzen, 1975). Based on the study of Mostafa (2007), attitude is a vital predictor to the behaviour; thus the understanding on the environmental attitudes of a typical consumer is by implying to predict their behaviour towards green purchasing. In addition, based on Schultz (2000), environmental attitudes concern are rooted in a person's concept of degree and self to each individual perceives himself to be an integral part of natural environment. Furthermore, Athiyaman, (2002) quoted that attitude refers to individual evaluation about the outcome of performing a behaviour. Specifically, attitude towards the behaviour explain as when

person evaluate the particular behaviour by questioning of himself to find out the degree of the favourable and unfavourable of that behaviour (Ajzen, 1991). Hence, when the behaviour turns out to be favourable, the intention of people to perform that particular behaviour strongly increases. Besides, Ajzen (1991) state that the more desirable the behaviour, the stronger intention to perform that behaviour. Furthermore, attitude could measure either through direct or belief-based measure. According to Ajzen (2002), belief-based measure of attitude denoted as weighted average of the strengths and outcome of evaluation of person behavioural belief. Buttel (1979), clarify that environmental attitudes are seizing individuals levels of attention and favour about general aspects of environmental such as ecological, or energy-saving phenomena.

Besides, Jansson (2010) mention attitudinal factor is the most effective determinants of the willingness to adhere the eco-innovation. There are studies being carried on to determine the relationship between environmental attitudes and environmental related issues. Most of the studies agree with positive relationship between environmental attitudes and green purchase intention by differ in cultures. Nevertheless findings from studies in Malaysia context, environmental attitudes not necessary will influence consumer purchase intention. Tan (2010) who study on a group of volunteers, state that the environmental attitudes of the green volunteers did not bring any influence to intention to purchase green products. A research had been carrying on examining the determinants of consumer adoption of innovations marketed (eco-innovations) and green curtailment behaviour. In the curtailment case, found the previous adoption decreases the willingness to curtail car use, imply the effect was negative. According to Jansson (2010), state that adopters of eco-innovations, in this case the alternative fuel vehicle, are content

with their initial adoption decision and show a high willingness for corresponding the decision in future purchases.

A huge part of the probable ecological harm has been correlated with the change in the atmosphere of our planet and how the change in climate is affected by what modern day. Maritz Automotive Research (2011) found that low consumers understanding and familiarity regarding alternative fuel for vehicle is discourage their purchase intention. They take it as second choice for their next purchase, not the first. Consumers who have higher environment concern about the existing problem, knowledge of better alternative, a feeling of responsibility, and the belief that their own actions can enhance the situation tempted to shrink those harmful behaviour (Coad, de Haan, and Woersdorfer, 2009). Hence, their perceive performance of the car will be different with others. They intend to purchase hybrid car as a responsibility to protect our earth; hybrid car minimize the emission of carbon dioxide and pollutant air. A study conducted by Fraj-Andrés (2009), emphasized that most of the customers are worry more on environmental problems, and the organizations will likely lose credibility in eyes of their customer when they do react to confront the environmental issue by offering green products. This argument is further support by Kim and Choi (2005), where state that environmental concerns have a positive influence on the customer green product purchase intention. This show that customer with high environmental concern are more likely interested in green product consumption. Based on Pickett-Baker and Ozaki (2008), respondents preferred buying brands that bring fewer hazards to the environment.

Hence nowadays, consumers are paying more concerned in environment, climate change, and rising of global temperature. Thus, more and more firms begin to step in

developing the green products especially fuel efficient vehicles as hybrid car. Improve in the level of awareness will bring towards minimize the pollution and enhance the concern on green environment. Attitude is the most determine factor in predicting consumers' intention to pay more for environmental friendly product. According to Laroche (2001), attitude plays most significant influence on consumers' willingness to pay more for environmental friendly product. Hybrid car is new innovation of technology which proven will reduce the emission of hybrid car and save the limited fuel resource. Thus, it should be widely adopted by the population and penetration into our daily needs.

2.3.2 Social Influence

The subjective norm in the Theory of Planned Behaviour is concerned with perceived social pressures from significant others to perform the behaviour. Taylor and Todd (1995) have success clarify the relationship between subjective norm and intention. Taylor and Todd (1995) conclude subjective norm is a better predictor for intention when there is lack of experience about subjects. Besides, Ventaktesh et al. (2003) stated that in the mandatory condition, subjective norm significantly influence in intention strongly but it get weak overtime. Social influence is one of subjective norm that usually been study. Mostly people are likely following the direction or trend of the group when they need to come out with a decision (Axsen et. al, 2009). Social influence may play a role in determining green label purchasing intention. Intention to purchase green product is directly proportional with the perceived subjective norm (Jeon et al, 2012). Still, the finding denoted that there is interrelation between subjective norm and purchase intention only in China but not in South Korea. Moreover, Ozaki and Sevastyanova (2010)