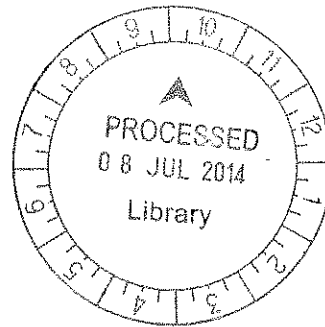


# INTI INTERNATIONAL UNIVERSITY

## MASTER OF BUSINESS ADMINISTRATION

### Factors Affecting Buyer Preferences toward Hybrid Vehicles in Klang Valley



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## ABSTRACT

Rapid growth in the economy and growing population were the main reason of environmental deterioration in developing countries continues to worsen and this has awakens them to green movement. Especially in Malaysia, there is an increasingly demands for renewable energy as it's expected to become a net oil-importing country in the near future. Within ASEAN, Malaysia was used to be a major oil-exporting country; however, there is a drastic rise of fossil fuel consumption in the market as its transportation is heavily dependent on un-renewable oil products. In this case, hybrid technology were designed for the purpose of fuel-economy and environmental friendly. This paper attempts to examine the buyer preferences for hybrid car with the objectives to investigate factors that influence buyer's behavioral intentions toward green technology. The theory of planned behavior (TPB) is applied in this study, including attitude and awareness toward hybrid technology, subjective norms, and perceived behavior control were measured. Nevertheless, this research would also enhance the existing literatures in order to evaluate the potential market of hybrid cars in Malaysia.

Keywords: Green technology, Eco-friendly label, Buyers preference, Hybrid cars, Malaysia

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*Chia Ja Meng*

April 2014

## DECLARATION

I hereby declare that this project work entitled "Factors Affecting Buyer Preferences towards Hybrid Vehicles in Klang Valley" submitted to the INTI International University is my own effort excepts for the information that has been used from various authors that have been cited accordingly and ethically.

10<sup>th</sup> April 2014

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## LIST OF ABBREVIATION

AFTA	ASEAN Free Trade Area
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
EEV	Energy Efficient Vehicles
EPA	Environmental Protection Agency
FiT	Feed-in-Tariff
GBI	Green Building Index
HEVs	Hybrid petrol-electric Vehicles
KL	Kuala Lumpur
MAA	Malaysian Automotive Association
MAI	Malaysia Automotive Institute
NAP	National Automotive Policy
SPSS	Statistical Package for the Social Sciences
TPB	Theory of Planned Behavior
US	United States

## Chapter 1: INTRODUCTION

### 1.0 Chapters Summary

The first chapter begins with the background of study. Development and implication of hybrid vehicle and automobile industry in Malaysia are described. Consequently, the research question and research objectives were raised out. In further, limitation of the study, scope of study, and significance of the study has also presented in this chapter. To sum up, the framework of every chapter is included.

### 1.1 Background of Study

#### 1.1.1 Introduction of Hybrid Vehicles

Hybrid vehicle is an innovative transportation that uses two distinct power energy sources, which are diesel/petrol and battery, and it's also well-known with its fuel efficient technology. As similar to conventional cars, hybrid vehicle is operated on petrol or other alternative fuels, and it's motorized with gasoline engine when you are accelerating to higher speed. However, Ariskan (2011) claim the hybrid vehicles as an effort to save the planet as it's gasoline engine will be automatically switched to electric motor when the car is idling at a steady speed of maximum 30 mph, thus it will not emit CO<sub>2</sub> as there is powered by electric motor and no fuel combustion. Besides that, the hybrid's batteries will be automatically recharged while the car is running on the road. With the upward sales of transportation, the traffic jam issues were getting even worsens in Kuala Lumpur (KL), the busiest city in Malaysia. As compared to those cars move at freeway speeds, the repeated acceleration and braking of stop-and-go traffic would leads to increases in fuel consumption, and pumps more pollutants into the air as well (Sanders, 2012). In fact, there is a lot of money is unnecessarily spent on fuel while they are stuck in the jam. During peak hour of traffic congestion, these slower moving motorized vehicles would also release larger amount of greenhouse gases emission and worsen the air pollution issues in Malaysia. However, the internal combustion engine of hybrid cars could

help to avoid toxic emissions during its continuously stopping and running (cited in Anderson, 2007). It means that hybrid vehicle is not only running in lower cost, it's also promoting the concept of "going green" by reducing quantity of gas emissions which specifically driving in the cities in traffic jams.

Referring to the latest research conducted by Frost and Sullivan, there're around 79% of KL residents are rely on their private transportation while only 8% of them are depend on public transportation, which including 11% are using combination of private and public transportation, and 2% of non-motorised (cited in The Malaysian Insider, 2014). It's clearly to see that most of the Malaysians are tends to own their private cars as they find the public transportations were lack of reliability and people-friendly (Sim, 2012). However, it's widely known that transportation is the major contributors of driving up the planet's temperature. Barth and Boriboonsomsin (2009) stated that, when there is a particular fuel consumed, the cars would release Carbon Dioxide (CO<sub>2</sub>) emission. As more gasoline burned, the more CO<sub>2</sub> will be enters the atmosphere. In order to effectively combatting global warming, switching to fuel-efficiency vehicles could be the better way to reduce the heat-trapping emissions released into the air. Despite of saving tons of money at the pump, hybrid vehicles that run by internal combustion engine and electric motors were burning less fuel and generate fewer emissions, and generate a cleaner future (Epa.gov, 2011).

### **1.1.2 Hybrid Vehicles in Malaysia**

Back to few years ago, "Hybrid" was still a completely strange word to most of the Malaysian. Under the earlier Budget 2011, Malaysian government was provided full tax import duty and excise duty exemption on hybrid cars below 2000cc and the incentives were extended until the year end of 2013 (Thestar.com.my, 2013). According to the statistics from Malaysian Automotive Association (MAA), there are only 322 unit of hybrid car were sold in 2010 before the full tax exemption were introduced (MAA, 2010). Within the past three years, hybrid cars have enjoyed

dramatically sales growth as there're 8,403 units recorded in 2011, 15,355 units in 2012, and 18,967 units in 2013 (refer to Table 1-1). Started from 2014, Malaysian government has discontinued the tax exemption for imported completely built-up (CBU) hybrid cars, but only supporting for the locally assembled completely knocked down (CKD) hybrid cars (Thestar.com.my, 2014). However, it's obvious to see that Malaysian government were trying to protect the local automobile manufacturers as well as encourages the local automobile companies to adopt the hybrid technology. Nevertheless, the exemption withdrawal for CBU cars would definitely negative affecting the sales of main hybrid car distributors, such as Honda Malaysia Sdn Bhd and UMW Toyota Motor Sdn Bhd. As of December 2013, Honda Jazz Hybrid was the only CKD that assembled in Malaysia and thus it takes the advantages of remains its competitive prices in the hybrids market (cited in Thestar.com.my, 2013). However, this would encourage the foreign car makers to assembly their hybrids vehicles in Malaysia due to the tax exemption of CKD hybrid vehicles.

**Table 1-1: Vehicles Registered and Hybrid Adopters Statistics**

Year	Passenger Cars	Hybrid Cars	Percentage (%)
2010	543,594	322	0.059%
2011	535,189	8,403	1.57%
2012	552,189	15,355	2.7%
2013	576,675	18,967	3.3%

**(Source: Maa.org.my, 2014)**

In 2014, Malaysia is targeting itself to become the manufacturing hub for Energy Efficient Vehicles (EEVs) which aims to promote the locally assembly CKD hybrid cars and protects the local automobile manufacturers. Madani Sahari, the chief executive officer of Malaysia Automotive Institute (MAI) claims that, "with the New National Automotive Policy (NAP) Strategies that turning Malaysia to be an EEVs hub, the government expects to generate about 180,000 new jobs within the local manufacturing and after sales sector by year 2020," (cited in Mai.org.my, 2014).



## 1.2 Problem Statement

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	282,102	33,732	27,338	343,173
2005	416,692	97,820	37,604	552,316
2006	386,738	90,471	33,559	490,768
2007	442,865	44,291	-	487,156
2008	497,499	50,656	-	548,155
2009	486,342	50,963	-	536,905
2010	543,594	61,562	-	605,156
2011	535,113	65,010	-	600,123
2012	552,199	75,564	-	627,763
2013	576,657	79,136	-	655,793

Figure 1-1: Summary of Vehicles Registered in Malaysia for The Year 1980 to YTD September 2013 (cited in Maa.org.my. 2014).

As referring to Figure 1, the new registered passenger vehicles were significantly increasing over the years. In other words, there's a growing demand on private vehicles in Malaysian market. According to the Road Transport Department (JPJ), new vehicles registered in 2012 have been increased 6.08% as compared to 2011 and the total registered vehicles with JPJ were passed the number of 21.4 million units (Thestar.com.my, 2014). To sum up with those foreign-registered vehicles, there're around 22.7 million vehicles running on the road with its population of 28 million people, which means 1.2 Malaysians were at least own one vehicle. In the year 2012 alone, the JPJ has collected RM2.28 billion in road tax (Thestar.com.my, 2013). With the upward trend of new vehicles registered in the country, most of the cars companies tend to enhance their market share in Malaysia market. In recent years, there's a continuously rising popularity of hybrid cars in the general public. The early adopters of hybrid car could also generate the positive words-of-mouth to further promoting the fuel-efficient technology. Therefore, there's a great potential market for local assembly CKD hybrid cars in Malaysia. However, due to the high competitiveness in Malaysian automobile industry, it's important to understand the main factors that influencing the buyer preferences towards hybrid vehicles.

Within ASEAN countries, Malaysia was used to be a major oil-exporting country; however, it's projected to become a net oil-importing country in the near future (cited in Prambudia, 2012). In fact, most of the transportations are heavily dependence on the un-renewable energy and this has relatively driven up the petrol prices. Besides that, the over consumption of oil products has also becoming a weighty burden for Malaysian government to pay the debts of petrol subsidies. According to Malaysia Prime Minister Datuk Seri Najib Tun Razak, in 2013, 53% of the total subsidies, which around RM24.8 billion were spent on subsidies petroleum product (cited in Thestar.com.my, 2014). Under the Budget 2014, Malaysian government are tends to lower the provision of fuel subsidies with its efforts to reduce the country's fiscal deficit. Prime Minister Najib Tun Razak, who is also the country's finance minister has further claims that, by cutting the petrol subsidies and raise up the both petrol and diesel prices in 20 sen/litres could help the government to save about 3.3 billion ringgit (The Hindu Business Line, 2013). However, Prime Minister Najib Tun Razak seeks to trim budget gap as achieving a 3% fiscal deficit by 2015 and a balance budget by 2020 with rising up the fuel prices (cited in Ramasamy and Chong, 2013). Due to the unstable prices of petrol and diesel product, it might stimulate the green-driving trends and switched the buyer preferences to get an eco-friendly vehicle.

The fundamental problem motivating this research study is that there is an urgent need to understand buyer preferences towards hybrid cars in Malaysia. However, environmental protecting is the dynamic issues and we shall encourage the efficient use of fossil fuels to ensure their availability to future generations. Green technology is still considered very new in Malaysia market unlike US, Japan or in Europe. As compared to those developed countries which have greater green consciousness, an eco-friendly label might be less significant in promoting the selection of hybrid cars as well. Therefore, the buyer preferences need to be study and what needs to be done to allow hybrid technology and eco-friendly label to spur the sales of hybrid cars in Malaysia. As the discontinued tax incentives of CBU, Malaysian government plays an important role in promoting the lighter hybrid vehicles in order to switch buyer preferences to an affordable green technology. Nevertheless, this study would also serves to examine the product awareness and technology acceptance of hybrid vehicles in Klang Valley, the biggest commerce hub of Malaysia.