

CHAPTER 2

REVIEW OF LITERATURE

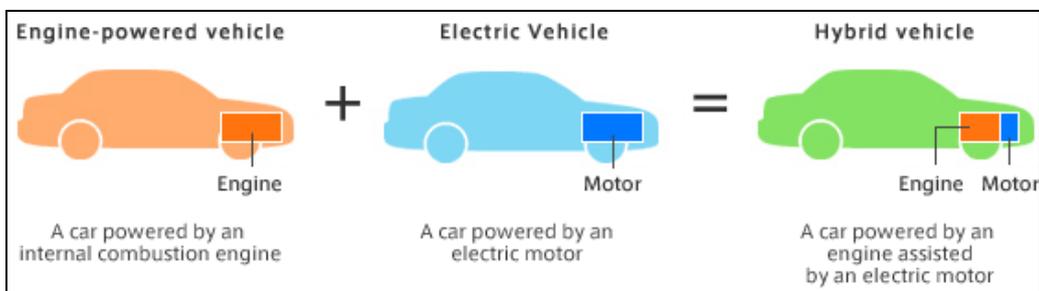
This chapter explains fundamental knowledge of the hybrid car, consumers' buying decision process, and the concept of marketing.

2.1 FUNDAMENTAL KNOWLEDGE OF THE HYBRID CAR

According to Electric Drive Transportation Association, the hybrid car is an automobile powered by a combination of two engine types which are an internal combustion engine and an electric motor. The traditional engine will be fuelled by gasoline while the electric motor will be automatically generated while braking.

From a combination of the two engines, hybrid-electric cars provide good driving performance by gasoline engine as well as helping to reduce fuel consumption by electric motor (United States Department of Energy).

Figure 1. A simple explanation of hybrid technology.



From *Hybrid Technology*, by Honda Motor Co. Ltd., n.d. Retrieved October 28, 2008, from <http://world.honda.com/automobile-technology/IMA/>

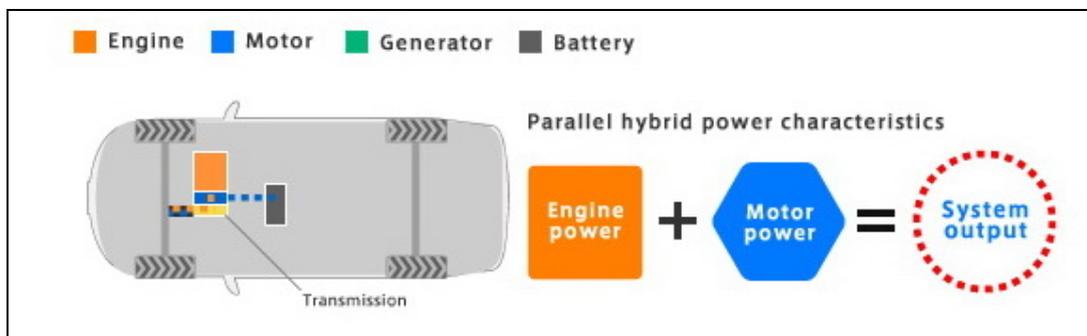
Hybrid car technology originated a hundred years ago. According to U.S. Department of Energy, the hybrid prototype car was developed in 1899 by Ferdinand Porsche. However, the project was discontinued until the 1970's when an oil crisis hit the global economy. Twenty years after that, the first commercial passenger car model, Honda Insight, was introduced in the 1990's followed by Toyota Prius.

2.1.1 Types of the Hybrid Car

Currently, there are three types of hybrid cars as explained by Honda Motor Co., Ltd. (n.d.).

Parallel hybrids. The main power source for parallel hybrids is a gasoline engine and is supported at low speeds, or accelerating by electric motor.

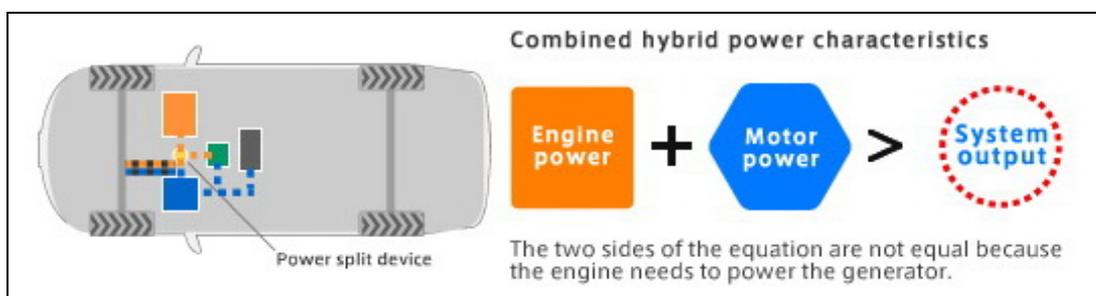
Figure 2. Characteristics of parallel hybrids.



From *Hybrid Technology*, by Honda Motor Co. Ltd., n.d. Retrieved October 28, 2008, from <http://world.honda.com/automobile-technology/IMA/>

Combined hybrids. The gasoline engine and electric motor work together harmoniously. The electric motor is used while starting up and running at low speed. As speed increases, both engines work together appropriately.

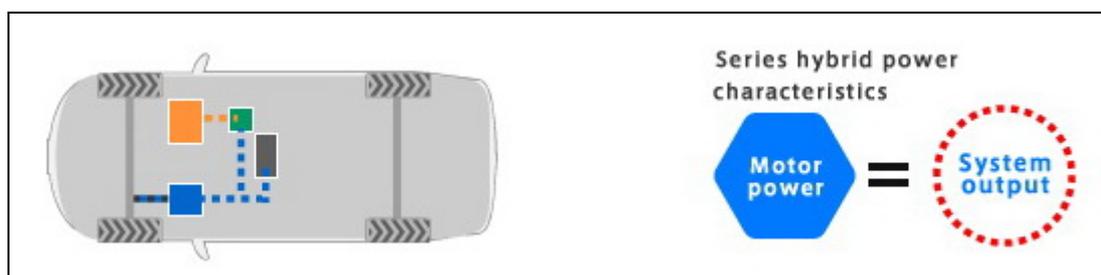
Figure 3. Characteristics of combined hybrids.



From *Hybrid Technology*, by Honda Motor Co. Ltd., n.d. Retrieved October 28, 2008, from <http://world.honda.com/automobile-technology/IMA/>

Series hybrids. Electric motors will mainly run the car while the gasoline engine works only to charge the batteries.

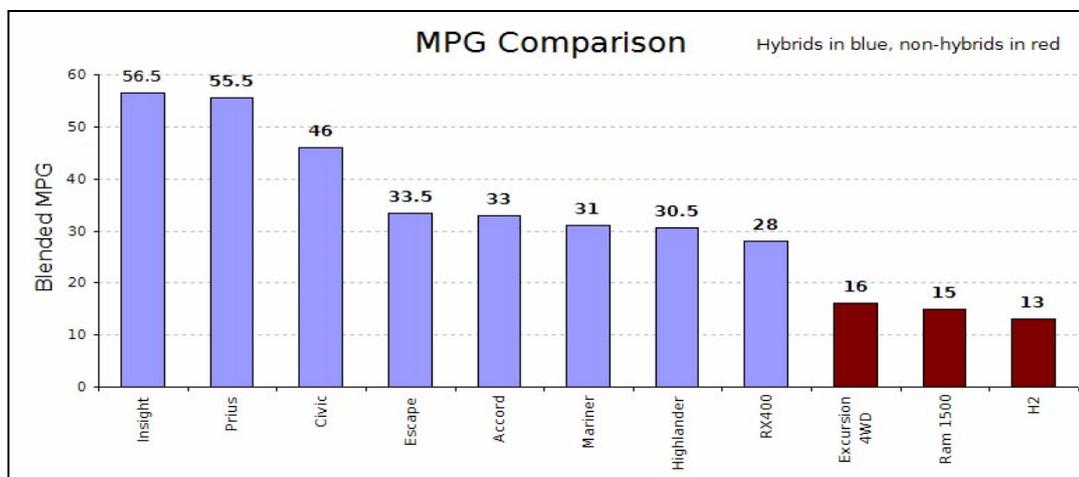
Figure 4. Characteristics of series hybrids.



From *Hybrid Technology*, by Honda Motor Co. Ltd., n.d. Retrieved October 28, 2008, from <http://world.honda.com/automobile-technology/IMA/>

Honda further explained that hybrid cars consume less than half of the fuel that traditional gasoline engine cars do. This fact was proved by Hybrid Comparison Charts about fuel efficiency of hybrid cars sold in the USA when comparing them with non-hybrid ones. The result showed that the Honda Insight Hybrid car could run at 56.5 miles per a gallon (MPG) of gasoline followed by Toyota Prius at 55.5 MPG and Civic Hybrid at 33.5 MPG. On a contrary, a non-hybrid model like Ford Excursion consumed 16 MPG while Dodge Ram 1500 consumed only 15 MPG (See Figure 5).

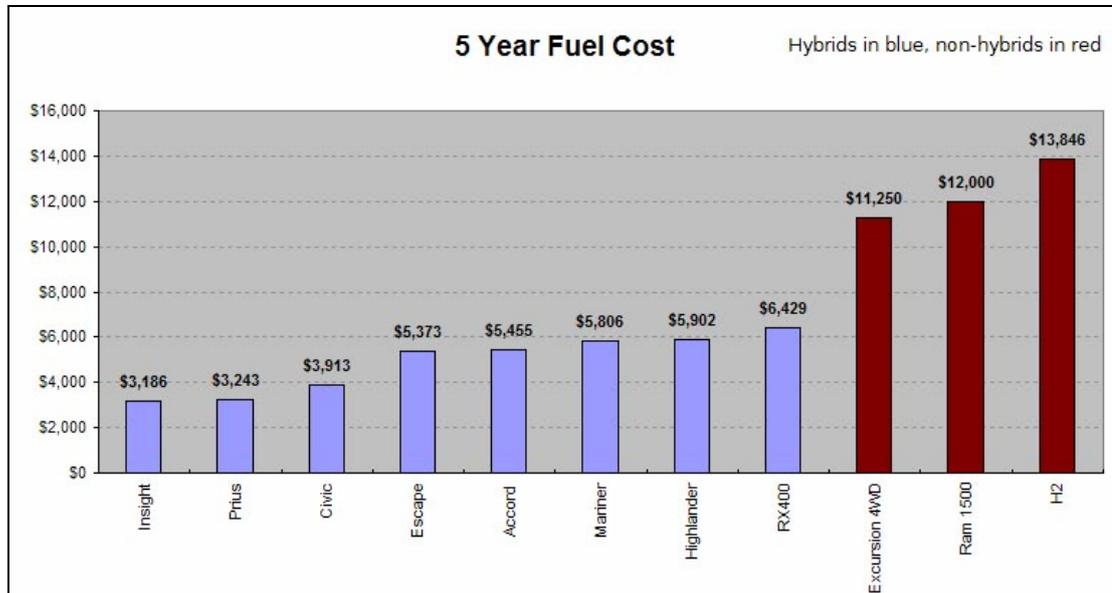
Figure 5. Fuel efficiency rates between hybrid and non-hybrid models in USA.



From *Fuel Comparison*, by Reserchhybrid, n.d. Retrieved October 30, 2008, from <http://www.researchhybrid.com/charts.html>

As a result, owners of hybrid cars can save a great amount of their fuel costs. Hybrid Comparison Charts further explained that the hybrid car that saves fuel cost the most was Honda Insight which cost 3,186 US dollars for refueling over 5 years. Meanwhile, the Ford Excursion, a non-hybrid car, cost about 11,250 US dollars over the same five years (see Figure 6). In conclusion, the Insight car owner could save around 8,000 US dollars for this expense.

Figure 6. 5 year fuel cost of hybrid and non-hybrid models in USA.



From *Fuel Comparison*, by Reserchhybrid, n.d. Retrieved October 30, 2008, from <http://www.researchhybrid.com/charts.html>

2.2 THE THEORY OF CONSUMER'S BUYING DECISION

Upon the finding of the most influential factor that affected motorists' decision to purchase a hybrid car, the fundamental consumer behaviour is the ground knowledge that the researchers would try to study in order to learn consumer trends.

Blackwell, Miniard, and Engel (2006) in *Consumer Behaviour* explained that consumer behaviour is the study of "why people buy" (p. 4) in order to find appropriate strategies to influence consumers to buy some products. Basically, there are three activities of consumption which are, obtaining information and evaluation, consuming products, and disposing of the products. It is important to understand these behaviours because consumer behaviour is the beginning of all companies marketing activities such as product attributes, pricing, place of purchase, and promotion.

2.2.1 The Buyer Decision Process

When a consumer wants to purchase a new product, there are five stages in the buyer decision process (Kotler & Armstrong, 2006). To start, the process begins when the buyer **realized his problem or need**. Such need is either generated by internal stimuli (hunger, thirst, sex) or external stimuli (advertisement, suggestion,

discussion) to a level strong enough to move onto the next stage, **information search**. However, the amount of information searching depends on consumer driving force. After gaining enough information, a consumer will **evaluate** those alternatives brands and then make **purchase decision**. At this stage, such decision might be affected by either attitudes of others like family and friends or unexpected situations such as cost cutting causing him to change the brand of his intention. The last stage is post purchase behaviors which depend on the relationship between the consumer's expectations and the product's performance. If the product is below expectation, the consumer is disappointed; if the product meets expectations, the consumer is satisfied; if the product exceeds expectations, the consumer is delighted.

2.2.2 Influence on the Buying Decision

Though a variety of product choices are provided for consumer selection, people rationally and carefully decide whether they should engage or not engage in the buying decision. There are three types of main influences that shape buying decision in Blythe (2005) and Blackwell, Miniard, and Engel (2006) as below:

2.2.2.1 Personal factors are features of the individual consumer that affects decision process and buying behaviour. The three main types of personal factors are: (1) demographic factors which express consumers' characteristic such as age, gender, income, and occupation, (2) situational factors that change in consumer's status such as pay rises or pay cuts, (3) level of involvement relating to the degree of concern for the products and purchasing decision.

2.2.2.2 Psychological factors are elements of the consumers' mental process such as need, perception, motives, ability and knowledge, attitude, and personality.

2.2.2.3 Social factors are influences from peer group like family, friends, community, and etc. that affect the buying decision process which are: (1) normative compliance - the pressure on the individual to conform or comply, (2) value-expressive influence - the desire to belong to one particular group, (3) informational influence - the desire to get information from the group about product type being considered.

2.3 THE THEORY OF MARKETING CONCEPT

Blyth (2005) defined the term “Marketing” to describe the transaction or exchange of activities between companies and customers deriving from the concept of a market place which saw seller and buyers come together to perform the above task.

Strategic planning of marketing activities for all products including hybrid cars is based on the marketing mix concept which consists of the following four Ps of marketing activities according to Richard (1984), and Wilkie (1994)

2.3.1 Product

A product can be anything favourable and unfavourable that a person received in an exchange. Product can be both tangible, like shirts, cosmetic or automobile, or intangible, like manufacturer’s services, image, or reputation. The product should fit the task the target consumers want it for, it should work, and it should be what the consumers expected to get.

2.3.2 Price

Price means different things for consumers and sellers. For a consumer, price is the cost of goods, for a seller, price is revenue. The product should always be seen as representing good value for money. This does not necessarily mean that it should be the cheapest available; one of the main tenets of the marketing concept is that customers are usually prepared to pay a little more for something that really works well for them.

2.3.3 Place

The product should be available from wherever the firm’s target group of customers find it easiest to shop. This may be a High Street Shop, it may be mail order through a catalogue or from a magazine coupon, or it may even be doorstep delivery.

2.3.4 Promotion

Promotion means a communication such as advertising, public relations, sales promotion, and personal selling etc. performed by the marketer to inform, persuade, and remind potential buyers of a product in order to influence their opinions or responses.

2.4 RELEVANT STUDIES

Several past studies relating factors affecting consumers' behaviour in purchasing cars were conducted as below:

Kasem Therdphaothai's (เกษม เทอดเผ่าไท, 2547) study of "factors influencing customers at SEC Exclusive Car Co. Ltd to buy imported multi-purpose vehicle car" aimed to find out which marketing activities were the most influential factors stimulating consumers' buying decisions on new cars. The study revealed that sales promotion was the most influential factor followed by product, place, and pricing, respectively.

The result was similar to a research of Titaree Intheva (ฐิตารีย์ อินทเวา, 2550) who conducted a study of "Marketing communication factors that influence the purchasing decision of BMWs". The objective of the study was to examine which marketing activity was the most influential factor stimulating customers' decision to buy the car and the results showed that sales promotion was the most crucial one, followed by sales personnel, after sales service and activity for customers like marathon running or golfing.

Different from Kasem and Titaree's studies, the research study about "Marketing communication factors influencing purchasing decision of Toyota Camry (all new Camry) on customers in the metropolitan area" by Tassarint Wudthivigaigan (ทศรินทร์ วุฒิวิทย์การ, 2550) indicated that product was the most influential marketing factor for customers who bought the Camry. The pricing was ranked second followed by place and sales promotion. The study also explored the most influential communication channel that provided customers with the necessary information about the car. It was found that websites were the most crucial resources especially those with public opinion boards. Most customers found the information trustworthy more than the company's official website.

To conclude, results of the past studies revealed that sales promotion was the most important marketing activity contributing to respondents' decision to buy a new car. However, some research found that product attribution was the most influential factor. As the target groups of these researches were different in demographic data, the relationship between buying decisions and influential factors would be different.

In this research, the marketing activities of hybrid car will be explored along with the influence on respondents' buying decisions based on concepts and theories given in this chapter.