

## The Study of Green Marketing in the Automotive Industry of Singapore

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### Abstract

Petroleum today is a scarce source and its depletion is happening at geometric rate. The scarcity of this resource is leading to rise in the prices of fuel. Crude oil in the international market is USD 110 per barrel. Moreover, the alarming weather and ecological atmosphere fluctuations caused due to Global Warming have elevated the need for green technology. Pollution is one of the major causes of global warming, a phenomenon caused due the depletion of the ozone layer. Emissions from transportation vehicles constitute about 60% of the total harmful emissions causing pollution. This rate is alarming and thus, there is a need to switch to green technology. Major manufacturers are aware that the Automotive using green technology are the future of the world and are hence trying to tap the market. There is immense potential in this market but due to several factors like the lack of awareness among people and inadequate marketing of these hybrid vehicles, this industry is facing a lot of issues. Over the past few years, the sales of hybrid Automotive have increased due to the advent of new technology. These Automotive are economically viable and have a lot of scope in the future because they are the need of the hour. Yet, this market is untapped. Our study aims at understanding and analyzing the issues faced by the Green Automotive Industry in Singapore.

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Advantages of Hybrid Cars:

- 1) Environmentally friendly: runs on cleaner fuel and has better gas mileage.
- 2) Financially viable: these Automotive are supported by many tax rebates and exemptions making them less cost intensive.
- 3) Less dependence on fossil fuels: a hybrid car due to 2 engines, consumes fuel at only high speeds reducing pollution and fuel consumption.
- 4) Regenerative braking system: each time we apply brakes while driving a hybrid, the battery recharges itself a little. This system reduces the time and need to recharge the battery by stopping.
- 5) Built from light minerals: these Automotive are made of lighter materials making the engine lighter and saving energy.
- 6) Higher resale value: with the increase in environmental awareness and the prices of gasoline, more people are shifting towards hybrids increasing the average resale values of these green vehicles.

Global sales of hybrid Automotive in 2020 have increased by several manifolds with Japan selling about 1.4 million Hybrid Automotive. Despite Europe being a tough market for such Automotive, their sales performance has been quiet strong. Toyota has sold over 510,000 hybrids in Europe which is approximately 10% of their total hybrid sales thereby

saving around 4 million tons of carbon emission. Hence, their gamble of investing in hybrid Automotive not only proved to be financially successful but they also saved huge amounts of carbon emission.

Talking of demographics, the sales of electric and plug-in hybrid vehicles trebled to nearly a million or so in 2020 in Europe but USA experienced a slump in the sales of hybrid Automotive in 2020.

#### INFORMATION NEEDS/ RESEARCH METHODS

Primary sources of data collection- Use of research methods like surveys, questionnaires, personal interviews with professionals associated with the Green Automotive Industry, connect with the consumers of this product through blogs and social networking websites and analyze the consumer choices which thereby define the sales swing.

Secondary source of data collection: Research using the secondary sources of data collection namely internet, journals, reference articles, Financial Statements and Sales Report of the hybrid car manufacturers etc.

#### INFORMATION NEEDS AND OPERATION

The data collected through secondary source states that the sales of hybrid Automotive across the globe have increased by almost 9.8% over the past several years. Yet, in the global market, hybrid Automotive account for a mere 2.5% and electrical vehicles are about 2.0% of the market share. Despite the tax redemption and the government subsidies these Automotive are unable to generate a wide market due to multiple reasons like lack of awareness among people, the comparative high initial cost and various others that we intend to realize during the course of this research. The potential of hybrid vehicles and electric vehicles remains untapped in Singapore with these Automotive constituting around 3.5% of the total vehicle percentage in this country. Further analysis is required to pinpoint the actual causes of low sales.

1. There is a tax rebate for low carbon emission Automotive in Singapore
2. Automotive with carbon emissions equal to or more than 211g CO<sub>2</sub>/km will incur a corresponding registration surcharge of between \$5,000 and \$20,000. The surcharges will only take effect from July 2013, to give consumers and the motor industry more time to adjust.

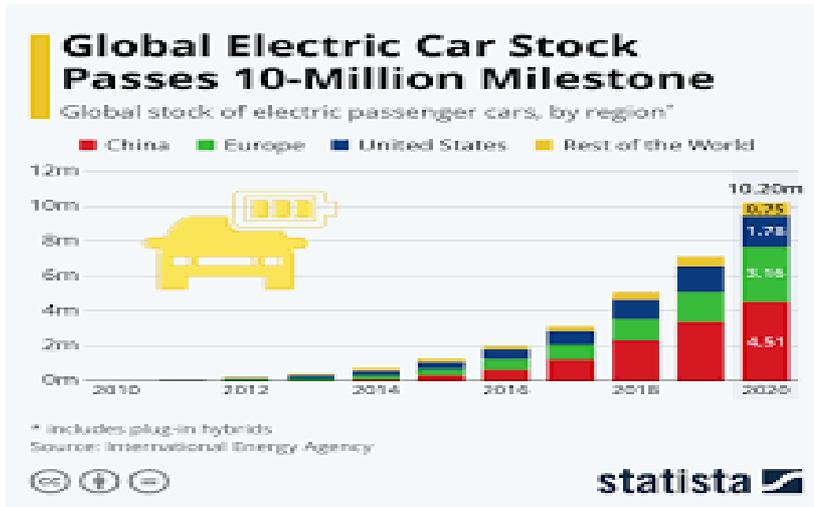
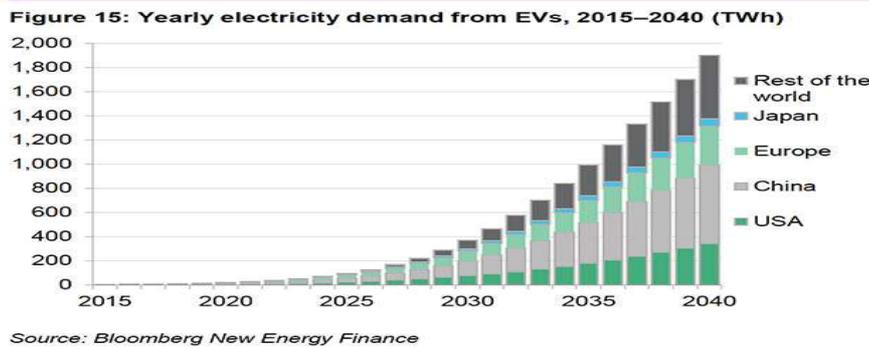


Figure 1: Global Sales Figures for Green Vehicles.

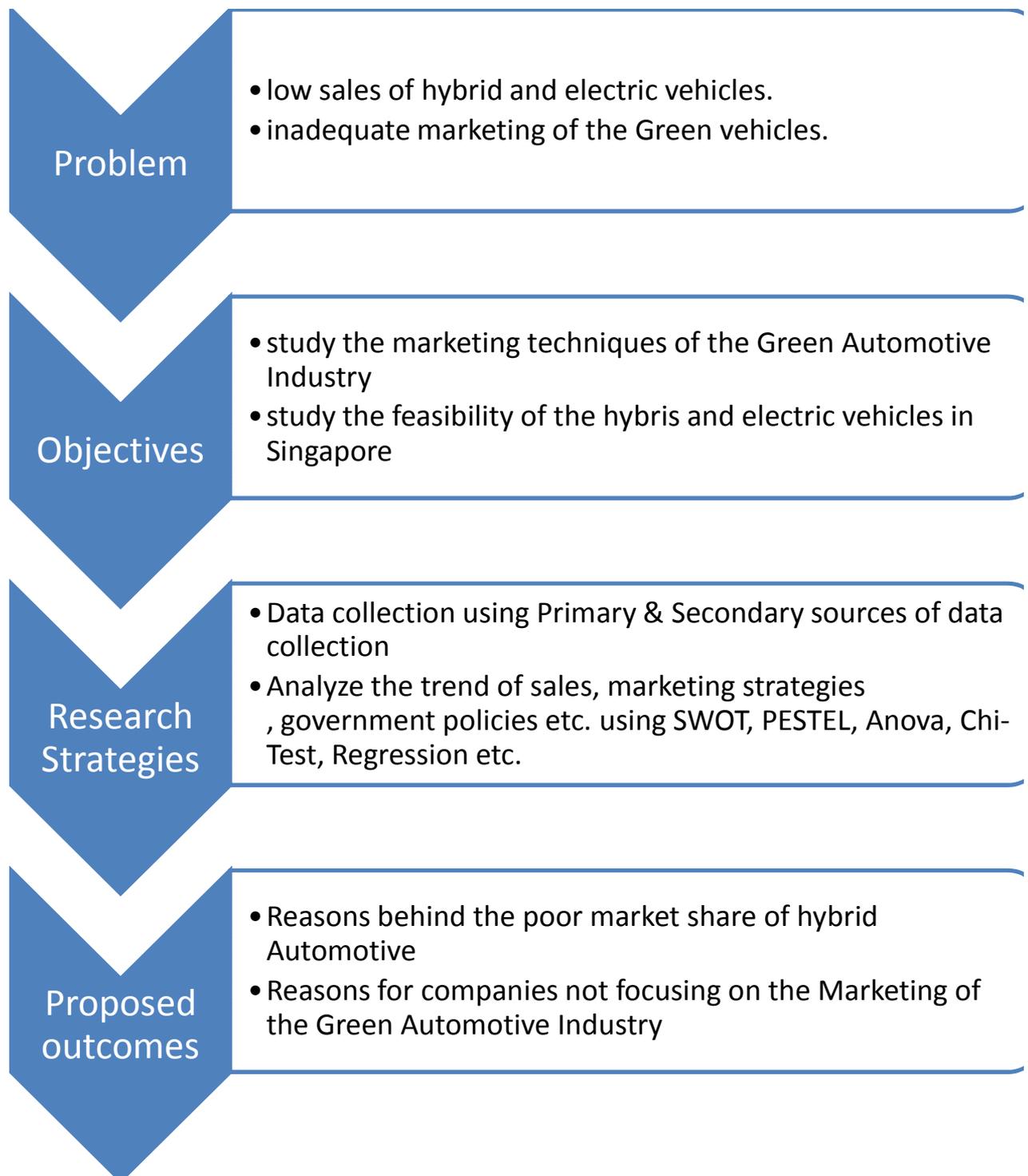
As we can see from the above chart the sales of EV Automotive from 2010 to 2020 have increased exponentially

### SCOPE OF ELECTRIC AUTOMOTIVE



As observed from the figure above there is an exponential increase in the sales of electric automotive. This shows that there is potential demand for electric vehicles and this market can expand further.

## CONCEPTUAL FRAMEWORK



## DATA ANALYSIS TECHNIQUES

Analyzed the collected data through data analyzing models

- PESTEL MODEL (Political economic social technological environmental and law)
- SWOT ANALYSIS (Strength Weakness Opportunities and Threats)
- REGRESSION
- PRODUCT MIX
- MARKETING MIX
- MCKINSEY MATRIX
- SALES MIX
- 3 C'S

## PROPOSED STUDY'S OBJECTIVES

- To understand the demographics of the Green Automotive Industry
- To understand and analyse the issues related to the Green Automotive Industry

## KEY QUESTIONS AND MAIN PROBLEMS

- Are companies interested in Green Marketing of Hybrid vehicles in Singapore?
- The Market Share of Hybrid Automotive in Singapore.
- The potential of Hybrid Automotive in Singapore
- What is the cost incurred by the company on Hybrid Technology?
- Government policies on the sale of Hybrid Automotive.
- Customer's willingness and awareness of Hybrid Automotive.
- Does Brand Play a role in sales of Hybrid Automotive?

## LITERATURE REVIEW

With the rise in gas prices and fuel being scarce in nature, it is obvious that a consumer would need an alternative energy source to fulfil the transportation requirements. Also, petrol and diesel Automotive emit harmful CO<sub>2</sub> gases which cause pollution and deplete the ozone layer thereby causing global warming. Therefore, we believe that hybrid and electric Automotive are the future as they comparatively emit less CO<sub>2</sub>.

Today, in a country like Singapore, an EV (Electric Vehicle) like the Nissan Leaf costs \$200,000 while its petrol equivalent Nissan Sylphy costs \$110,000. It would be extremely difficult to recover the extra \$90,000 in 10 years' length of the COE. This is the main problems being faced by EV manufacturers.

The Government of Singapore has decided to track the country's carbon emission as governments in most developed countries realize the need to reduce greenhouse

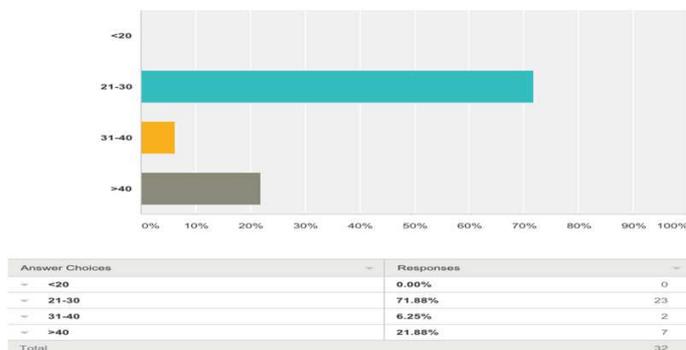
emissions. The major part of greenhouse gas emissions are carbon dioxide emissions. In 2010, Singapore emitted around 42.9 million tons –which is approximately 0.25 per cent of the world’s output - of greenhouse gases that cause global warming. If the country would not act on increasing levels of CO2 then the levels would reach approximately 78 million tons by 2020.

17% of the carbon dioxide levels are caused due to transportation, hence along with traffic management and stressing utilization of public transport, Government of Singapore is taking actions to promote the sales of green automotives. The primary method to promote green vehicles would be to introduce incentive policies. A reference to the cross-sectional analysis of hybrid registration data over time from US states that the relationship between hybrid adoption and a variety of socio-economic and policy variables could provide an idea of the impact of Singapore Government incentives on green vehicles. It can also be observed that the number of Hybrid vehicles in Singapore increased from just 140 in 2005 to 1.92 million in June 2021 due to the introduction of tax rebate.

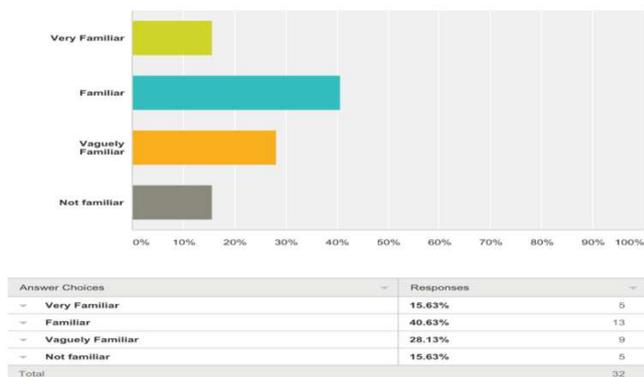
## RESEARCH FINDINGS

As per our survey the following information can be inferred

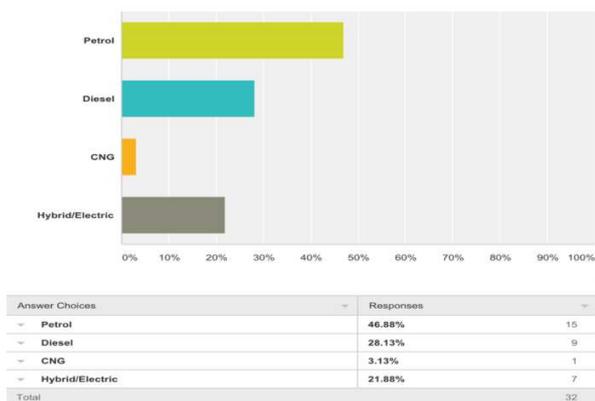
Q.) What Age group do you belong to?



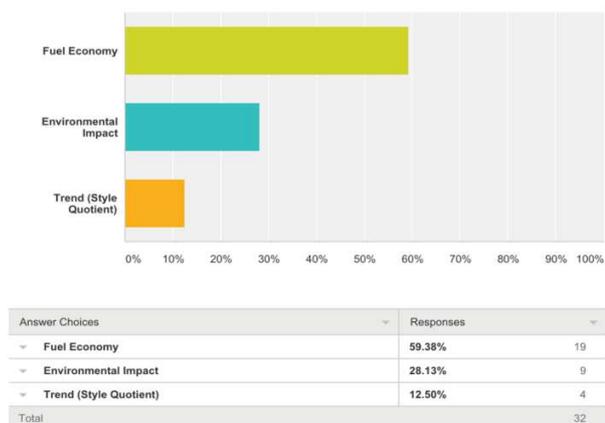
Q.)How much do you know about the Hybrid/Electric Vehicle?



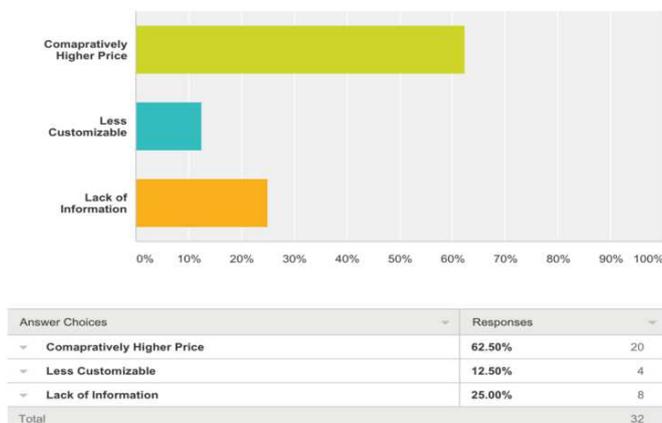
Q) What kind of vehicle do you prefer?



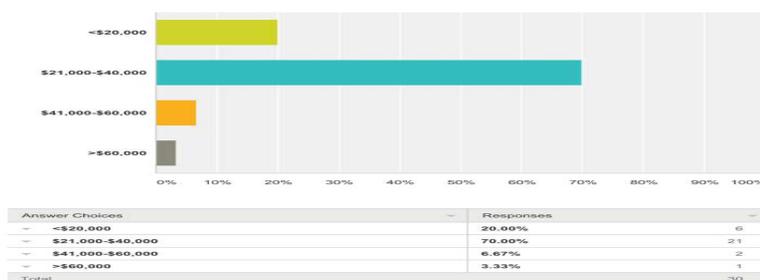
Q) If you consider purchasing a Hybrid/Electric Vehicle, what would influence your decision?



Q.) What would your reasons be for not purchasing a Hybrid/Electric car?



Q) How much are you willing to spend on a car?



We conclude from the above findings that one of the major reasons for the poor market share of hybrid Automotive are:-

- The lack of awareness among people. Out of the people who took the survey, only 15% were familiar with the concept of hybrids.
- Another reason for people not switching to hybrids is the higher price of hybrids as compared to petrol/diesel Automotive.
- 70% of the people who took the test stated that they were willing to pay \$20000-\$40000 for an electric and hybrid car.
- Demand for the electric and hybrid Automotive is increasing in the coming years

### RECOMMENDATIONS

People should be made aware of the advantages of using Hybrid or electric operated Automotive so as to reduce carbon discharge. People prefer buying cheaper Automotive therefore, the price of such Automotive should be subsidised and tax incentives should be given to the buyers of such Automotive. In the times of global warming, it is important to emphasis the production of such Automotive not only for urban area but also for the rural usage. This transformation cannot take place immediately but gradually this transformation can be brought about by strict Government Policies of Singapore.

## REFERENCES

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- 5) <http://evobsession.com/electric-car-sales-increased-228-88-2013/>