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Perception about Electronic Cars: A Study conducted on probable customers in Tezpur Area

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Abstract: Now-a-days people are becoming conscious about the preservation of natural resources and also environmental protection. This is because they fear about their future generation to catch up health diseases and a world which will not at all be safe for human beings to live in. Hence concepts like green entrepreneurship, green marketing, etc are adopted by various industries in order to move towards paperless society, thus making an attempt towards preserving the environment. As far as car industry is concerned, we are all aware about the amount of pollution created by the vehicles due to release of carbon monoxide gases which is very harmful for our environment. Hence with extensive research, electronic cars are launched which will be run by electrical energy stored in rechargeable batteries. But the question arises as to whether the electric cars will be able to create a market and sustain its momentum? With that intention, a small survey is conducted in Tezpur area, Assam to study market perception towards electric vehicles.

Keywords: Environmental protection, Electric cars, Consumer awareness.

I. INTRODUCTION

Now-a-days consumers are becoming conscious about the preservation of natural resources and also environmental protection. This is because they fear about their future generation to catch up health diseases and a world which will not at all be safe for human beings to live in. Hence concepts like green entrepreneurship, green marketing, etc are adopted by various industries in order to move towards paperless society, thus making an attempt towards preserving the environment. As far as car industry is concerned, we are all aware about the amount of pollution created by the vehicles due to release of carbon monoxide gases which is very harmful for our environment. Cars produce a lot of carbon emissions that are ejected into our natural atmosphere, leaving us vulnerable to things like pollution and greenhouse gases. Hence with extensive research, electronic cars are launched which will be run by electrical energy stored in rechargeable batteries.

The electric car is a relatively new concept in the world of the automotive industry. Although some companies have based their entire model of cars around being proactive and using electricity, some also offer hybrid vehicles that work off both electricity and gas. An electric car such as Nissan Leaf, Ford Focus Electric or Tesla Model S, Chevrolet Volt is a great way to save money but also help contribute towards a healthy environment. But the question arises as to whether the electric cars will be able to create a market and sustain its momentum? With that intention, a small survey is conducted in Tezpur area, Assam to study the attitude of consumer's towards electric cars.

What is Electric Car?

An electric car is an automobile that is propelled by one or more electric motors, using electrical energy stored in rechargeable batteries. Unlike a hybrid car which is fueled by gasoline and uses a battery and motor to improve efficiency – an electric car is powered exclusively by electricity. Electric cars have more batteries than normal gasoline car. It's the same kind of batteries that are commonly used when starting up a gasoline engine. The only difference comes in the fact that in electric vehicles, they have more of them which are used to power the engine.

Advantages of an electric car

There are so many different reasons why to invest in an electric car in the modern day technology:

1. **No gas required**: Electric cars are entirely charged by the electricity we provide, meaning we don't need to buy any gas, petrol or diesel ever again. Driving fuel based cars can burn a hole in our pocket as prices of fuel have gone all time high. Though electricity isn't free, an electric car is far cheaper to run.
2. **Savings:** These cars can be fueled for very cheap prices. Electric cars can also be a great way to save money in our own life.
3. **No emissions**: Electric cars are 100% eco-friendly as they run on electrically powered engines. It does not emit toxic

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gases or smoke in the environment as it runs on clean energy source.

4. **Popularity:** Electric vehicles are gaining popularity. With popularity comes all new types of cars being put on the market each being unique, providing us with a wealth of choices to move forward.
5. **Safe to drive:** Electric cars undergo same fitness and testing procedures as other fuel powered cars undergo. In case an accident occurs, one can expect airbags to open up and electricity supply to cut from battery.
6. **Cost effective:** Earlier cost of acquisition of an electric car was very high. But with more technological advancements, both cost and maintenance have gone down.
7. **Low maintenance:** Electric car runs on electrically powered engines and hence there is no need to lubricate the engines.
8. **Reduced noise pollution**: Electric cars do not create noise pollution as they are quieter. Electric cars are capable of providing smooth drive with higher acceleration over long distances.

Disadvantages of an Electric car:

1. **Recharge points**: Electric fuelling stations are still in the developing stages. If we are going on a long trip and run out of charge, we may be stuck where we are.
2. **Electricity isn't free:** Electric cars can also be a hassle on our energy bill if we are not considering the options carefully. It is wise to do research before making an investment in electric cars.
3. **Short driving range and speed:** Electric cars are limited by range and speed. Most of these cars have range about 50-100 miles and needs to be recharged again. These cars cannot be used for long journeys.
4. **Longer recharge time:** While it takes couple of minutes to fuel gasoline powered car, an electric car take about 4-6 hours to get fully charged.
5. **Silence as disadvantage:** Silence can be a bit disadvantage as people like to hear noise from vehicles coming behind them to make them conscious. An electric car is however silent and can lead to accidents in some cases.
6. **Normally two seaters:** Most of the electric cars available today are small and two seated only.
7. **Battery replacement:** Depending on the type and usage of battery, batteries of almost all electric cars are required to be changed every 3-10 years.
8. **Not suitable for cities facing shortage of power:** As electric car needs power to charge up, cities already facing power shortage are not suitable for electric cars.

II. OBJECTIVES

1. To find out whether conventional cars will be replaced by electronic cars after its availability or not.
2. To find out the attitude of the current car owners towards electronic cars.

III. METHODOLOGY

The research methodology involves primary data as the type of data. The research tool used is the Questionnaire Method of data collection. The sample size considered is 50. The Source of sample collection are the car dealers in Tezpur and convenience sampling method is used for sample selection. The area and scope of study is confined to Tezpur area. Five car dealers are available in Tezpur currently and as such 5 car customers from each dealer are considered as sample for data collection.

Available Car dealers in Tezpur:

1. **Ford**: Chand Ford, Near All India Radio Center, Vill-Gotlong, PO-Kaliabhomora, Sonitpur, Tezpur.

2. **Hyundai**: Krishna Hyundai, Mazgaon, Baruahchuburi,Near 155 Base Hospital, P.O-Nikamul, Majgaon, Tezpur

3. **Mahindra**: Ashok Motors, Mission Charali, Ketekibari, Tezpur

4. **Maruti Suzuki**: Isum Motors pvt. Ltd, Near Don Basco School, National Highway 37A, Patiachubri, Tezpur

5. **Nissan**: Nissan, Mission Charali, Tezpur.

IV. FINDINGS AND ANALYSIS

My first objective was to find out whether conventional cars will be replaced by electronic cars after its availability or not. Based upon the data collected the following results were discovered as enumerated in the table along with the diagram below:

	No. of respondents
Will replace Conventional car with electric car (Yes)	17
Will not replace Conventional car with electric car (No)	33

Table: 1 number of respondents who are going to replace their conventional cars with electric cars.

The above table clearly depicts the number of respondents who are going to replace their conventional cars with electric cars which is 17 and the remaining 33 respondents are not willing to replace.

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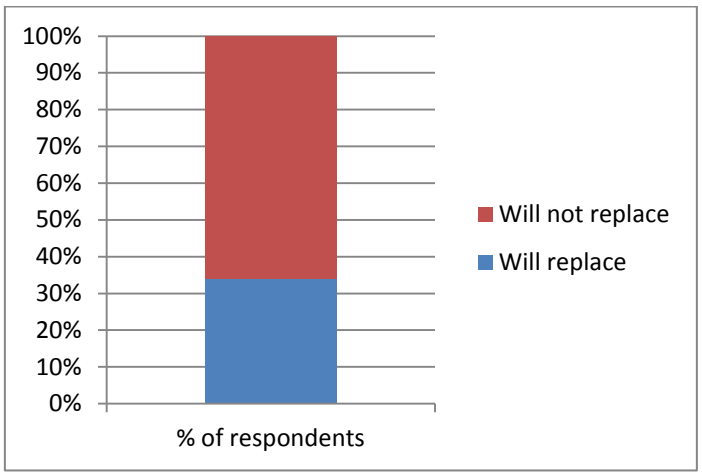

Fig. 1 % of respondents who are willing to replace their conventional cars with electronic cars

From the above diagram if % of respondents who are willing to replace their conventional cars with electronic cars are sought, it can be viewed that 34% of the sample says 'Yes' and the remaining 66% of the sample says 'No'.

The second objective of the study was to find out the attitude of the current car owners towards electronic cars. Based on the objective, my survey revealed the following information:

Why will the current car owners replace their Conventional cars with Electric cars?

1. Electric cars are not going to emit poisonous carbon which is going to hamper their environment. They feel the conventional cars are leading them towards an unhealthy environment which will not allow the future generation to survive safely.
2. The fuel prices are rising day by day which has become really expensive for them to run their cars on daily basis. They have to think twice before running their cars on road. Electronic cars will be cheap and hence will not curtail their interest of running their cars on daily basis.
3. Thirdly the queue in petrol pumps which waste a lot of important time for businessman, professionals and employed will be eradicated.

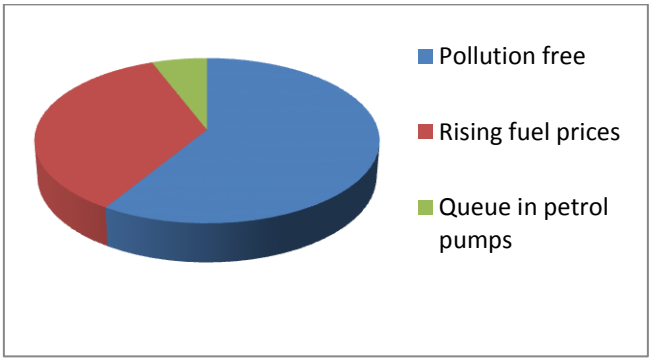

Fig. 2 Positive Reasons behind electric cars

The above diagram depicts the different reasons that are attracting the car owners to replace their conventional cars with electric cars. 10 of them basically wants to embrace the electric car for its pollution free technology, 6 of them due to rising prices, they want to get rid of the fuel powered cars and 1 of them doesn't like to queue in petrol pumps, hence wants to recharge the car at home and move around.

Why will the current car owners not replace their Conventional cars with Electric cars?

1. They do not want to experiment with a new technology. They are satisfied with their conventional cars.
2. Electricity is also chargeable. Hence electric cars aren't going to curtail their expenses.
3. Electric cars are very expensive. Hence if cheap electric cars are launched, them they might think about purchasing one.
4. Electric cars are two seaters mostly. Hence is not a better idea for a family.
5. They are curious about if battery charge gets finished on the way which might make them stuck on that particular place if they do not get rechargeable points.

V. SUGGESTIONS

1. Electric cars should be launched at an affordable price. Price is also a factor that might hinder the probable customers to purchase. The rich might purchase but India is not a country for rich people. Hence middle class people are populating the country in large percentages. So, an affordable electric car will widen the market for the car industries launching electric cars.
2. Rechargeable points or stations should be installed immediately at a minimum distance so that owners of electric cars do not halt in between their journey.
3. Awareness programme on the benefits of owning an electric car should be conducted frequently to enlighten the good effects of the electric car towards the environment.

VI. CONCLUSION

Conclusively, considering the demand for oil will only be going up as the supplies run out, an electric car will most likely be the normal mode of transportation in the coming future. Companies like Nissan and Tesla offer great electric models with an outstanding amount of benefits for people who decide to invest. We will be saving not only for ourselves but also our family a huge amount of money. The environmental impact of an electric car is zero, as well- meaning we are reducing our carbon footprint and positively affecting the economy. Only the challenge is to change the mindset of the people towards shifting their interest towards such a positive

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step towards the environment and they embrace the new technology.

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