

# A STUDY ON CUSTOMER PERCEPTION TOWARDS ELECTRIC VEHICLE

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## ABSTRACT

An electric vehicle(EV) is one that operates on an electric motor, instead of an internal combustion engine that generates power by burning a mix of fuel and gases. Therefore, such as vehicle is seen as a possible replacement for current-generation automobile, in order to address the issue of rising pollution, global warming, depleting natural resources, etc. The main aim of the study is to find out the awareness, type of e-vehicle preferred by the respondents and the satisfaction level of the buyers about the usage of electronic vehicle. The study suggests that the manufactures of E-Vehicle and government may create more awareness on the benefits of E-Vehicle. The number of show room selling E-Vehicles must be increased. The study concludes that inorder to reduce pollution, citizens of our country may change the transportation system either by using by-cycle nor using electric vehicle.

**Key words:** Electronic Vehicle, Usage, Awareness.

## INTRODUCTION

An electric vehicle (EV) is one that operates on an electric motor, instead of an internal combustion engine that generates power by burning a mix of fuel and gases. Therefore, such as vehicle is seen as a possible replacement for current-generation automobile, in order to address the issue of rising pollution, global warming, depleting natural resources, etc. Though the concept of electric vehicles has been around for a long time, it has drawn a considerable amount of interest in the past decade amid a rising carbon footprint and other environmental impacts of fuel-based vehicles. In India, the first concrete decision to incentivize electric vehicles was taken in 2010. According to a Rs 95-crore scheme approved by the Ministry of New and Renewable Energy (MNRE), the government announced a financial incentive for manufacturers for electric vehicles sold in India. The scheme, effective from November 2010, envisaged incentives of upto 20 percent on ex-factory prices of vehicles, subject to a maximum limit. However, the subsidy scheme was later

withdrawn by the MNRE in March 2012. In 2013, India unveiled the 'National Electric Mobility Mission Plan (NEMMP) 2020' to make a major shift to electric vehicles and to address the issues of national energy security, vehicular pollution and growth of domestic manufacturing capabilities. Though the scheme was to offer subsidies and create supporting infrastructure for e-vehicles, the plan mostly remained on papers. While presenting the Union Budget for 2015-16 in Parliament, then finance minister Arun Jaitley announced Faster Adoption and Manufacturing of Electric Vehicles (FAME), with an initial outlay of Rs 75 crore. The scheme was announced with an aim to offer incentives for clean-fuel technology cars to boost their sales to upto 7 million vehicles by 2020.

In 2017, Transport Minister Nitin Gadkari made a statement showing India's intent to move to 100 per cent electric cars by 2030. However, the automobile industry raised concerns over the execution of such a plan. The government subsequently diluted the plan from 100 per cent to 30 per cent. In February 2019, the Union Cabinet cleared a Rs 10,000-crore programme under the FAME-II scheme. This scheme came into force from April 1, 2019. The main objective of the scheme is to encourage a faster adoption of electric and hybrid vehicles by offering upfront incentives on purchase of electric vehicles and also by establishing necessary charging infrastructure for Electric Vehicles.

**OBJECTIVES**

- To identify the type of electric vehicle preferred by the respondent
- To study the awareness of electric vehicle used by the respondent
- To know the satisfactory level of the respondent towards electric vehicle.

**STATEMENT OF THE PROBLEM**

Transport is the biggest buyer of oil in India. Since India imports more than three fourth of its oil requirement, the oil imports have genuine ramifications for the national vitality security. Because of high oil transport part likewise represents about ten percent of CO<sub>2</sub> outflow and is a noteworthy hotspot for air poisons. The paper investigates the various co-advantages of Electric vehicles as CO<sub>2</sub> outflows decrease, vitality security and air contamination. Other than the co benefits, Electric vehicles can likewise have co-expense and dangerous, for example, from the vast scale for batteries. Petroleum price is increasing day by day because of GDP and inflation rate of the economy. Green environment concept will be in the minds of people, institution or government to reduce pollution and save the life of the people living in the country. Municipality, hospitals, and institution are trying to use electric vehicle to reduce pollution in and around their area. Hence, the present study has been undertaken in "A study on Customer Perception Towards Electric Vehicle".

**METHODOLOGY**

Research Area	The scope of the current research is that to find out the awareness and satisfaction level of using electronic vehicles by the public.
Area of study	The area of study is confined to Coimbatore city, Namakkal city, and Tirupur city.
Sample size	The sample was restricted to 200 respondents in the study and the data was collected by convenient sampling method
Sources of data	Both primary data and secondary data

Tools for analysis	Simple percentage method, Rank analysis, Average score analysis
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**REVIEW OF LITERATURE**

**Rakesh Kumar et al., (2019)** conducted a study on electric vehicle for India its overview and challenges, the study concludes that, the battery Ecosystem of all government buses into electric and offering tax exemption for private needs to be develop which can support many companies and start-ups developing battery backup and cell manufacturing, the charging infrastructure needs to be adequately built address range anxiety. **Janardan Prasad Kesari et al., (2019)** conducted a study on opportunities and scope of electric vehicle in India, the study concludes that the geography and diversity of this country will present problems that require thoughtful solutions that are not yet visible in the field. **Dr. Niranjan., (2020)** conducted study on awareness and perception level of prospective consumer towards Electric Vehicle. The study concludes that apart from manufactures, government should strive had to spread awareness and influence positive perception among the potential customers.

**RESULTS AND DISCUSSIONS**

**TABLE 1: FACTORS INFLUENCING TO PURCHASE ELECTRIC VEHICLE BY THE RESPONDENTS**

S.NO	Factors influencing to purchase electric vehicle	Respondents	
		Number	Percentage(%)
1.	Quality	63	31.5
2.	Comfort	72	36
3.	Durability	57	28.4
4.	Design	8	4.1
<b>Total</b>		<b>200</b>	<b>100</b>

Source: Primary data

The above table clearly shows that 31.5% of the respondents prefer to purchase electric vehicle for quality, 28.4% of the respondents to purchase electric vehicle because of durability, 36 % of the respondents p to purchase electric vehicle because of comfort, and 4.1 percent of the respondents to purchase electric vehicle because of design.

**TABLE 2: USAGE OF ELECTRIC VEHICLE IN SERVICE ORIENTED ORGANISATION**

S.No	Usage of Electric Vehicle in Service Oriented organization	Respondents	
		Number	Percentage(%)
1.	Hospital	27	21.7
2.	Educational Institutions	44	30.4
3.	Village Panchayats	30	24.8
4.	Railways Stations	20	12.4
5.	Other	17	10.7
<b>Total</b>		<b>138</b>	<b>100</b>

Source: Primary data

The above table depicts that,30.4% of the respondents using electronic vehicle in educational institution,24.8% of the respondents used in village panchayats, 21.7 % of the respondents used in hospitals, 12.4% of the respondents used in railways stations, and 10.7 % of the respondents used in other service oriented organization such as work place, logistics.

**TABLE 3: COMMON PROBLEM FACED BY THE RESPONDENTS WHILE USING ELECTRIC VEHICLE**

Features	Mean	Rank
Recharge point	4.25	1
Short Driving Range and Speed	4	2
Longer Recharge Time	3.775	3
Battery Replacement	3.24	4
Electricity isn't Free	3.07	5

Source:Primarydata

The above table determines that the main problem faced by the respondents while using electric vehicle gives the first rank lack of recharge point and followed by Short driving range & speed of the vehicle, longer recharging time, lack of battery replacing, electricity charges incurred for charging the vehicle.

**TABLE 4: LEVEL OF AGREEABILITY ABOUT ELECTRIC VEHICLE**

Level of satisfaction	Benefits to the government	Benefits received by the public	Ecofriendly in nature	Causes less pollution	Cheaper maintenance	Save more in long run	Cost effective
Average Score	4.34	4.06	4.48	4.28	3.44	3.11	3.02
Rank	II	IV	I	III	V	VI	VII

Source:Primarydata

The above table shows that the users of electric vehicles gives top priority to eco friendly in nature, and followed by benefits to the government, causes pollution, saves more in long run, cost effective.

**TABLE 5: LEVEL OF SATISFACTION TOWARD ELECTRIC VEHICLE BY THE RESPONDENTS**

Factor	Quality	Price	Durability	Distance Covered	Charging Sector	Recharge Involved
Average Score	4.11	3.73	3.78	3.17	2.98	3.29
Rank	I	III	II	V	VI	IV

The above table shows that the user's level of satisfaction for electric vehicles gives top priority to Quality, and followed by Durability, Price, Recharge Involved, Distance Covered, and Charging Sector.

## SUGGESTION

The government may initiate some attractive policies and provide incentive to the buyers of Electric Vehicle. The manufactures of E-Vehicle and government may create more awareness on the benefits of E-Vehicle. The number of show room selling E-Vehicles must be increased. E-Charging station to be designed preferably with roof top solar generation to minimize dependence on fossil fuels in entire supply chain hence, shifting towards clean energy. Encourage EV manufactures to design vehicles with changeable battery.

## CONCLUSION

Electric Vehicle have their own opportunities and obstacles. The electric vehicle users are facing problem while travelling in long distance because of lack of recharge point. The study indicate that the customers are strongly agree that electric vehicle are Eco-friendly in nature and they are highly satisfied with the Quality of the vehicle. Government across the globe are framing stringent policies for ecological consideration and prevention of pollution. Inorder to reduce pollution, citizens of our country may change the transportation system either by using by-cycle nor using electric vehicle.

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