

# The Impact of Electric Vehicles in Indian Market

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## Abstract

Electric vehicle are increasing their market share day by day and many brands like Tata, MG, Hyundai etc, presenting discounts on expenses of mobility. Many companies are switching their R&D higher from gasoline to electric segment. how automobile industry is changing the specific business modal which is used in order to acquire the market and sustain the differential between electric vehicle and carbon emission manufacturing assembly lines. Type of vehicle must be specific before getting one as they have different properties among them the positive approach towards the future of automobile market it will become a necessity to have one. a lot of upgrade is required to make bit more efficient.

## INTRODUCTION

Electric vehicles (EVs), the name only suggests that they are partially or fully powered by electric power. There is no use or requirement for fossil fuels i.e. gasoline or diesel to start these cars as they run solely on electricity. So fact can be noted here that these cars are obviously eco-friendly in nature.

As everyone is aware the country's pollution is at a much higher level than it can bear. If we study the most polluting cities in the world, only many Indian cities are on the list of the electric automobiles have a battery that is charged with the electric supply and hence the use of fossil fuels will be vanished completely from the Indian market. The main objective of putting the electric vehicles on the roads of the country is to make India pollution free. Also the aim is to save the precious fossil fuel so that it can be prevented for the future generations. This was the turning point for the public of India when the idea of electric vehicles was introduced in the Indian market. As the population is unexpectedly growing in the country which ultimately increasing the needs for survival for such a big amount of population. Therefore, the introduction of electric cars is a boon for the country, bringing more benefits to the community and the country as a whole. And with the change of the auto industry environment, the big guys, miners and all automobile manufacturing enterprises of all kinds are planning to switch to using electric cars to compete in the market. and avoid offending customers of your brand. Electric vehicle is needed because it is the best solution to many different problems in the world. As the world becomes technology- driven, transportation must also be improved for a sustainable life. and better. But it's still a challenge for car manufacturers and governments alike to make people aware of the benefits of these cars, helping to

## OBJECTIVE OF THE STUDY

The objective of this study is to find out the future of the EVs in the automobile sector and how it can be incorporated into create demand for them. 4044 Electric vehicles should be adapted by the general public

in a broad context so that traditional cars that run on gasoline, diesel or CNG can be completely phased out and these fuels can be saved for needs of future generations. Electric bicycles, electric cars, electric trailers, etc. maybe are examples of electric vehicles. The logistical operations to deal with the rising carbon footprint into the environment.

## LITERATURE REVIEW

(Praveen Kumar and Kalyan Dash, 2013) They studied the need for proper planning before implementing a nationwide electric vehicle strategy. Government must be ready with the appropriate infrastructural means for the same and also to exit the domestic strategy.

(Franchao Liao, 2017) The government is doing very well to promote the use of electric vehicles and make India pollution free. In this study, they often compare economic approaches and consumer attitudes towards electric vehicles. They found that using an electric vehicle is a better choice for a cleaner environment.

(Lingzhi Jin, 2017) The researcher finds that there is a need to raise public awareness about new technologies and innovations that need to be made to keep up with the changing environment. Consumers Users need to be aware of the benefits of electric vehicles.

(Mohamed M, 2018) The study looked at the advantages and disadvantages of using electric vehicles in the country. Some opportunities exist, such as government subsidies, a pollution-free environment, and reduced fuel use, among others. However, there are exceptions. There are however certain hurdles, such as establishing sufficient infrastructure for electric vehicles. It must be employed on a big scale, to pique public attention, and so on.

(Pritam K Gujarathi, 2018) According to the survey, there is a pressing need to clean. The more electric cars are used, the better for the environment and for making the country pollution-free. Although this is a fantastic endeavour, the general people in India continue to rely on gasoline cars, which are harmful to the environment. As a result, the environment is being harmed, leading to health problems.

(Anil Khurana, 2019) The study explores how public intention alone is insufficient to compel people to purchase electric automobiles. They must be completely happy with the advantages of electric cars and free of the risks linked with their use.

## RESEARCH METHODOLOGY

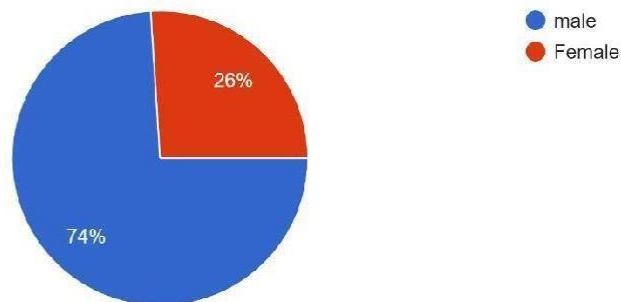
- Research design – This research is a descriptive research that collects data from a sample of population to know the extent to which conditions can be collected in reference to the particular subject.
- Research method - The research method in this study is qualitative research as it suggests what the respondents think and why they think in the particular manner about the topic of study.

- Sample size – The sample size is the part of the whole population from whom the data for the research is collected to come on the conclusion. The sample size of this study is 100 respondents.

India's electric car distribution system, as well as the technologies that may be used to make it more successful for the general population.

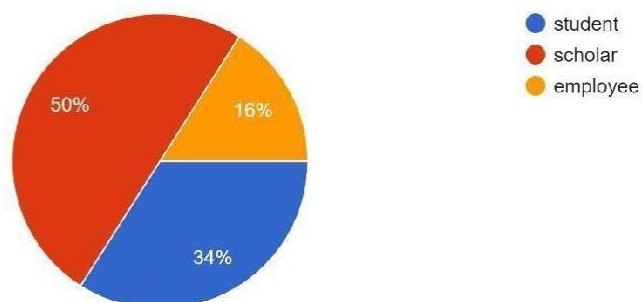
- Sampling method – The sampling method in choosing the samples from the population in this study is convenience method of sampling in which the respondents are selected as per the convenience of the researcher. I have chosen this method because it is economical and uncomplicated in nature.

What is your gender?  
100 responses



- Collection method – There can be two types of data used in the research study:
  1. Primary data – The primary data is the first hand information that is collected primarily by the researchers. The method used in collecting primary data in this study is structured questionnaire filled by the respondents.
  2. Secondary data – This is the information about the particular topic that is already available. The method of collecting secondary data in this study is internet

What is your occupation?  
100 responses



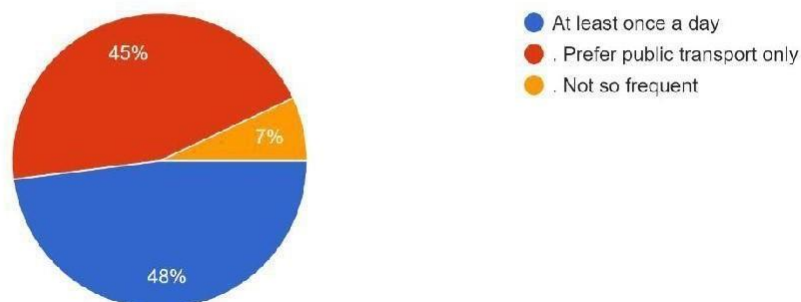
## DATA ANALYSIS

The questionnaire was formed through Google Forms and the link was shared with people on different platforms so that they could access the specific link and submit their answers. 4044 Data was collected through a structured questionnaire filled in by respondents according to their knowledge and understanding. Respondents were assured that their data would be secure for this study and would not be shared with anyone.

- A total of 100 people answered the structured questionnaire out of , of which % were female and 74% were male
- Out of the total sample of respondents, 16% of respondents are employees, are working in some company, and 34% of respondents are students and the remaining are trainees
- How frequently do you travel by private vehicles?

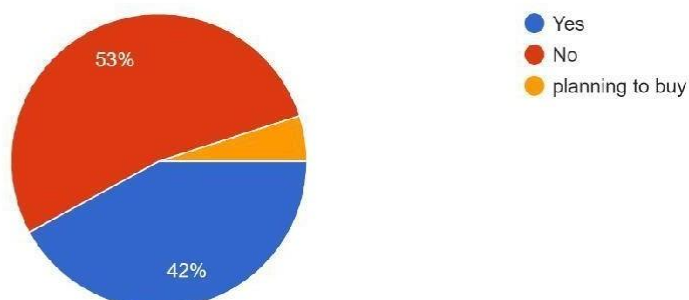
1. At least once a day
2. Not so frequently
3. Prefer public transport only

How frequently do you travel by private vehicles?  
100 responses



Explanation: From the above data collection, it can be seen that almost half of the population 48% travel at least once a day by their personal vehicle and 7% do not commute often by their personal vehicle and the remaining 45% prefer to have only public transport instead of using their own vehicle. Therefore, the need for a personal vehicle for the daily use needs of 4,444 people.

do you have your own electric vehicle?  
100 responses



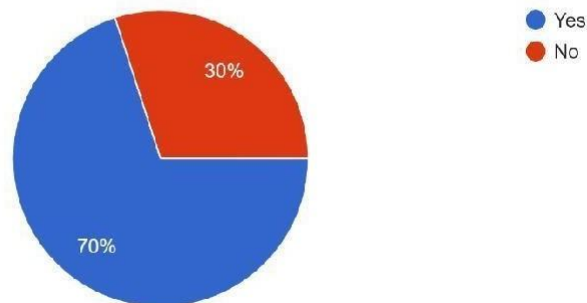
Explanation: From the above data, it can be analyzed that 53% of the total sample of people do not have electric vehicles and 11% of respondents plan to buy electric vehicles in the future and still only 42% have electric cars. So there will be fewer people who own an electric vehicle or plan to buy in the future.

- Have you driven an electric car?

1. It's correct

2. No

Have you drive an electric vehicle?  
100 responses



## FINDINGS

After receiving the answer from the 100 people who are asked as a structured questionnaire, the conclusion of the study is as follows:

- There are more than half of the respondents agreeing about claiming that electric cars are better than other vehicles.
- Some Indian audiences do not know about the total benefits of using electric vehicles in the country. They often use fuel vehicles, so it is difficult for companies to take a large scale of the market because People are not willing to accept this change. Indians tend to use anything when they are accepted by many others, they are still waiting for many consumers to join electric cars.

According to the comment received from the respondent, India is not ready to know the station infrastructure in India, because there are current oil stations for the country's large population. Therefore, they consider risk as a factor to not buy a electric vehicle as it will be difficult to drive an electric vehicle over a long distance.

Some respondents believe that electric vehicles are the future. They suggest that every car manufacturer should bring electric vehicles to market because it is eco-friendly and helps to protect the environment.

## LIMITATIONS

The study was done with sincere dedication but there are still some limitations as mentioned below:

- The population samples in this study were 100, so they may not be representative of the entire population in the country.
- Respondents are small in number and may not be sincere in responding to the structured questionnaire they have completed. Since the questionnaire was provided to them in digital form, it was difficult to know their reaction and behavior while filling it out. 4044 • The time limit may be one of the limitations because of the less time devoted to the study, it is not possible to perform a proper analysis of 4044 in such a short time.

## Conclusion

After studying the impact of electric vehicles in the Indian market, it can be concluded that out of 100% of the population only 40% of them have an electric vehicle or are planning to buy an electric vehicle. Therefore, The people of this country are moving towards the production of electric vehicles, the automotive sector with all-electric vehicles. Everyone must first be completely satisfied and form the habit of using a fuel-powered vehicle. And for this, there should be appropriate regulations for the use, maintenance of electric vehicles and the disposal of electric vehicle parts.

As Government of India has stated previously that the country will be completely dependent on electric vehicles by 2030 and it looks like this can be achieved with proper planning and strategy by the government and electric vehicle manufacturers in its production. Electric cars have to be cost-effective for ordinary people so that they can buy it too. If this country can make the roads of India fully equipped with electric vehicles, there will be different benefits that can be realized like eliminating the use of fuel in cars, thus reduce 4,444 petrol and oil imports from abroad, protect the environment against pollution vehicles. This will help domestic companies compete with their competitors in the automotive sector around the world

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