

# **Project Report Template**

## **1. INTRODUCTION**

### **1.1 Overview**

A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source and have an electric motor instead of an internal combustion engine.

The Electric Vehicle (EV) is not new, but it has been receiving significantly more attention in recent years. Advances in both EV analytics and battery technologies have led to increased automotive market share. However, this growth is not attributed to hardware alone. The modern mechatronic vehicle marries electrical storage and propulsion systems with electronic sensors, controls, and actuators, integrated closely with software, secure data transfer, and data analysis, to form a comprehensive transportation solution. Advances in all these areas have contributed to the overall rise of EV's, but the common thread that runs through all these elements is data analytics.

The new EV's are combined Electrical storage and propulsion systems with electronic sensors, controls, and actuators, integrated closely with software, secure data transfer to form a comprehensive transportation solution.

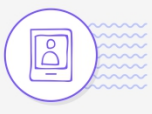
### **1.2 Purpose**

The main purpose of this project is to create an awareness about Electric Vehicles to the users. And each electric car on the road helps in reducing the harmful air pollution for the younger generations to come.

## **2. Problem Definition & Design Thinking**

### **2.1 Empathy Map**

Template



## Empathy map

Use this framework to develop a deep, shared understanding and empathy for other people. An empathy map helps describe the aspects of a user's experience, needs and pain points, to quickly understand your users' experience and mindset.

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### Build empathy

The information you add here should be representative of the observations and research you've done about your users.

### Thinks

What are their wants, needs, hopes, and dreams? What other thoughts might influence their behavior?

### Says

What have we heard them say?  
What can we imagine them saying?

### Feels

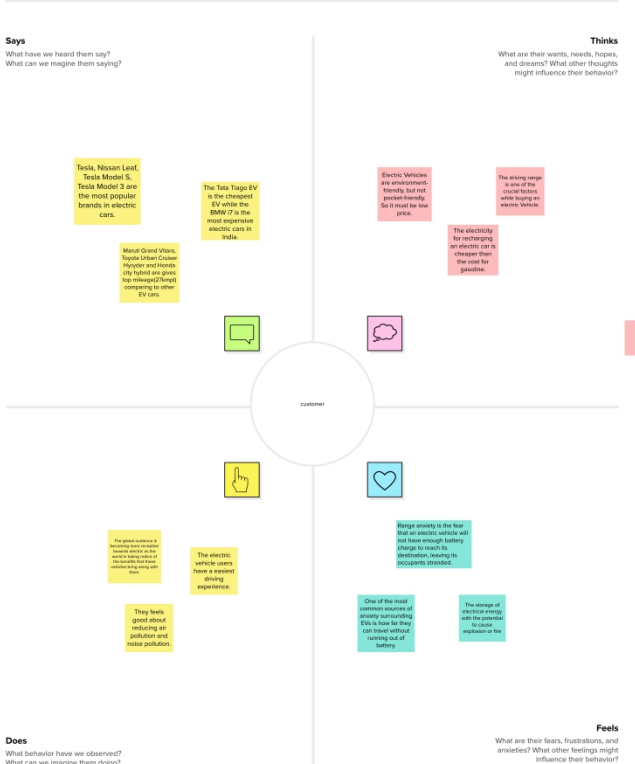
What are their fears, frustrations, and anxieties? What other feelings might influence their behavior?

### Does

What behavior have we observed?  
What can we imagine them doing?


### Thinks

What are their wants, needs, hopes, and dreams? What other thoughts might influence their behavior?



## 2.2 Ideation & Brainstorming Map

Template



## Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

10 minutes to prepare  
1 hour to collaborate  
2-4 people recommended

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### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

- 1. Team gathering: Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.
- 2. Set the goal: Write down the problem you're focusing on solving in the brainstorming session.
- 3. Learn how to use the facilitation tools: Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#)

### Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

**PROBLEM**

Electric fueling stations are still in the development stages. Here a lot of places you go to on a daily basis will have electric fueling stations for your vehicle. Meaning that if you're on a long trip or don't have a car, it may be harder to find a charging station. This may be more difficult for you if you're on a long trip or don't have a car. However, with a charging station, you can charge your car and you can travel without carrying out of battery.

**Key rules of brainstorming**

To run an smooth and productive session:

- 1. Stay in topic
- 2. No criticism
- 3. No too many
- 4. No too many
- 5. No too many
- 6. No too many

### Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

**Person 1**

1. I think electric cars are better than gas cars because they are faster and they are cheaper.

2. I think electric cars are better than gas cars because they are faster and they are cheaper.

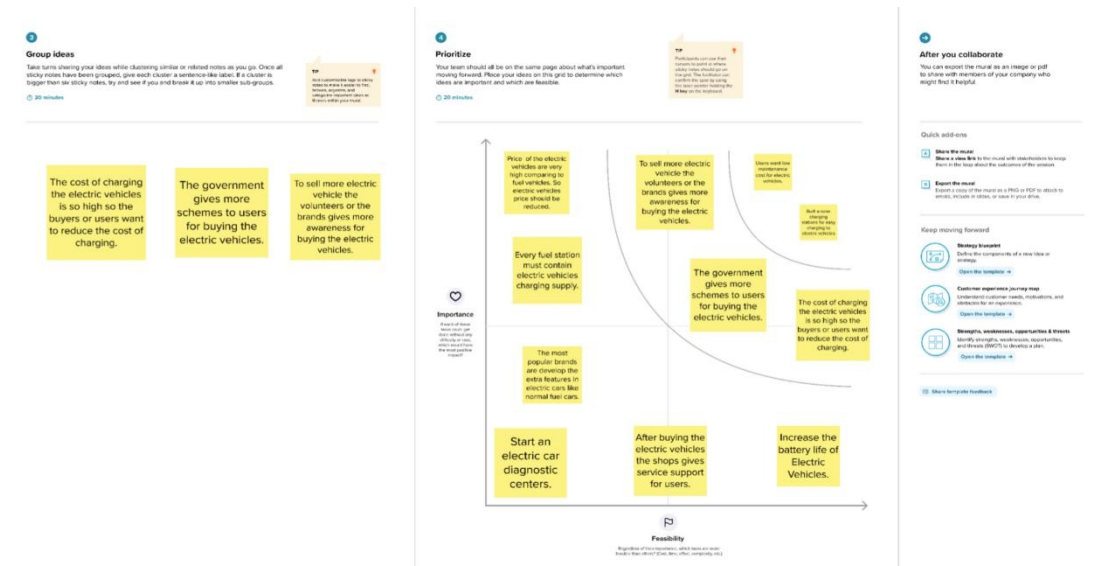
3. I think electric cars are better than gas cars because they are faster and they are cheaper.

**Person 2**

1. I think electric cars are better than gas cars because they are faster and they are cheaper.

2. I think electric cars are better than gas cars because they are faster and they are cheaper.

3. I think electric cars are better than gas cars because they are faster and they are cheaper.



### 3. RESULT

Final findings (Output) of the project along with screenshots.



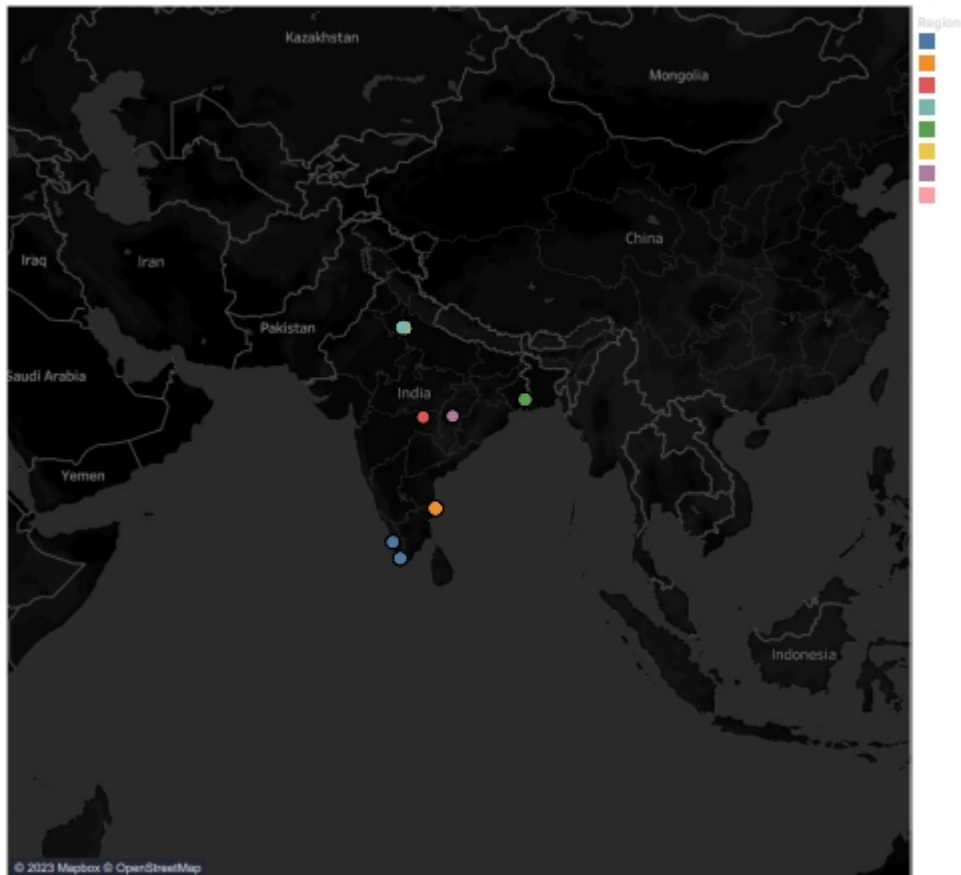
## story of electric cars in India

Charging Stations in India

Charging Stations by region & type

Price of Electric Cars by different

Different brands & No. of models



```
> index.html > ...
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5    <meta charset="utf-8">
6    <meta content="width=device-width, initial-scale=1.0" name="viewport">
7
8    <title>Electric Car Analytic</title>
9    <meta content="" name="description">
10   <meta content="" name="keywords">
11
12   <!-- Favicons -->
13   <link href="assets/img/favicon.png" rel="icon">
14   <link href="assets/img/apple-touch-icon.png" rel="apple-touch-icon">
15
16   <!-- Google Fonts -->
17   <link href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,400i,600,600i,700,700i|Nu
18
19   <!-- Vendor CSS Files -->
20   <link href="assets/vendor/aos/aos.css" rel="stylesheet">
21   <link href="assets/vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
22   <link href="assets/vendor/bootstrap-icons/bootstrap-icons.css" rel="stylesheet">
23   <link href="assets/vendor/glightbox/css/glightbox.min.css" rel="stylesheet">
24   <link href="assets/vendor/remixicon/remixicon.css" rel="stylesheet">
25   <link href="assets/vendor/swiper/swiper-bundle.min.css" rel="stylesheet">
26
27   <!-- Template Main CSS File -->
28   <link href="assets/css/style.css" rel="stylesheet">
29
30   <!-- =====>
```

## 4. ADVANTAGES & DISADVANTAGES

Advantages:

- Electric vehicles do not utilize fuel for combustion, there are no emissions or gas exhaust.
- Driving an electric car is significantly smoother. Because they lack fast-moving elements, they are quieter and produce less noise.
- Electric vehicles run on renewable power, whereas conventional automobiles function on the combustion of fossil fuels, which reduces the world's fossil-fuel stocks.

Disadvantages:

- Limited Battery Range. The average petrol car can easily do four or five hundred miles on a tank of petrol.
- Electric battery production can adversely impact the environment, such as a loss of biodiversity, air pollution and decreased freshwater supply.
- Electric Vehicles battery recycling methods are still in their early stages, but they are not specially designed to be recycled.

## **5. APPLICATIONS**

Instead of utilizing fossil fuels like petrol or diesel to charge their batteries, electric vehicles use Electricity. Due to their greater efficiency and the lower cost of power, setting up an electric car is more affordable than purchasing fuel or diesel for your travel.

## **6. CONCLUSION**

In conclusion, Electric cars have both advantages and disadvantages. They are a great way to minimize environmental pollution but also have certain disadvantages. We all know that nothing is perfect or adequate. Thus, in this project, we made you aware of these things. This project may be helpful when considering choosing an electric vehicles.

## **7. FUTURE SCOPE**

Electric car manufacturing is getting increasingly popular, and its market share is likely to grow significantly. By 2023, India's GDP is predicted to increase by a staggering 25%.

The best aspect is that, in addition to decreasing pollution, Electric vehicles can reduce oil imports by \$60 billion by 2030. Currently, imports account for 82% of India's oil requirement.

