FINAL PROJECT REPORT

1.INTRODUCTION

1.1 Project Overview

The Electric Vehicle Charge & Range Analysis project aims to study and analyze EV datasets from India and global markets. The project uses Tableau to create interactive dashboards that visualize EV performance, efficiency, pricing, and charging infrastructure.

1.2 Purpose

The purpose of this project is to simplify complex EV datasets into understandable visual insights, helping users analyze market trends and performance metrics efficiently.

2. IDEATION PHASE

2.1 Problem Statement

EV datasets are large and complex. Manual analysis makes it difficult to compare EV performance, pricing, and charging infrastructure efficiently.

2.2 Empathy Map Canvas

Users want easy-to-understand dashboards that allow comparison between EV brands and models.

2.3 Brainstorming

The team brainstormed ideas such as building static reports, Excel analysis, and Tableau dashboards. Tableau was selected due to its interactive visualization capability.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Describes how users navigate through dashboards to gain insights.

3.2 Solution Requirement

Functional and non-functional requirements were defined including data import, visualization creation, and publishing.

3.3 Data Flow Diagram

Shows how EV data flows from CSV files to Tableau dashboards.

3.4 Technology Stack

Tableau Desktop, Tableau Public, CSV datasets, Data cleaning tools.

4. PROJECT DESIGN

4.1 Problem Solution Fit

The dashboard provides an effective solution for analyzing EV performance data.

4.2 Proposed Solution

Interactive dashboards and story-based visualization.

4.3 Solution Architecture

Data → Processing → Tableau → Dashboard → User.

5. PROJECT PLANNING & SCHEDULING

Project divided into 4 sprints covering data collection, preprocessing, dashboard development, and deployment.

6. FUNCTIONAL AND PERFORMANCE TESTING

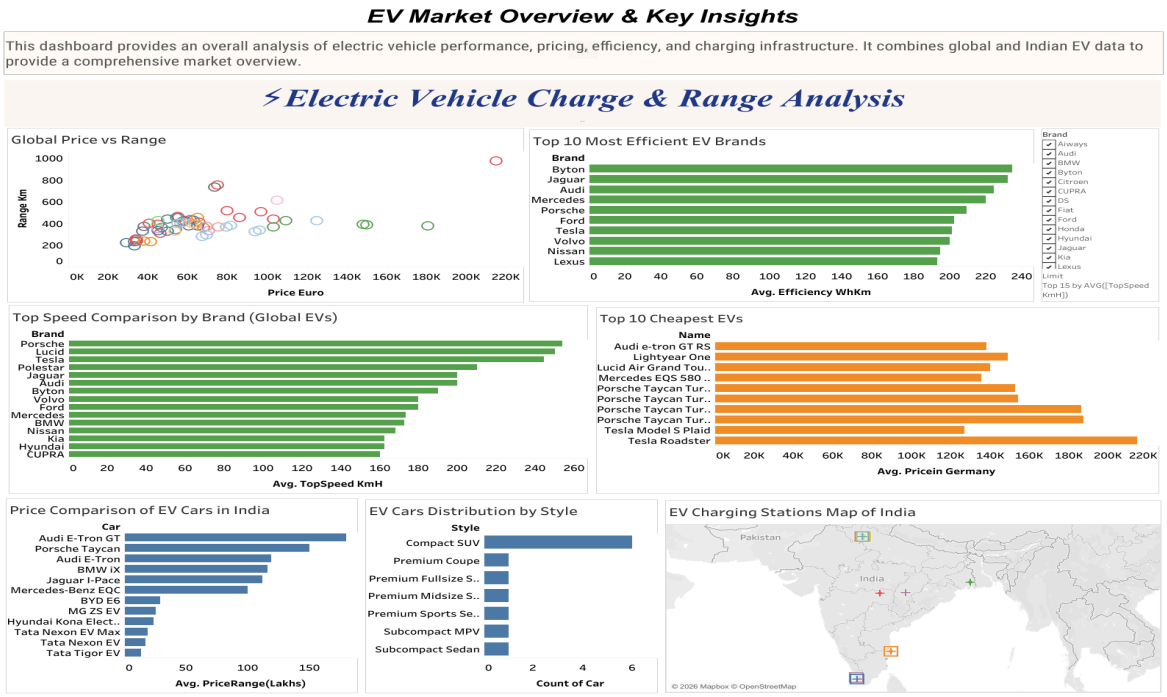
Dashboards tested for:

- Correct data rendering
- Filter functionality
- Story navigation
- Map visualization

7. RESULTS

The project successfully produced:

- 1 Main Dashboard
- 4 Mini Dashboards
- 5 Stories



8. ADVANTAGES & DISADVANTAGES

Advantages:

- Easy EV comparison
- Interactive visual insights
- Real-world data analysis

Disadvantages:

- Depends on dataset accuracy
- Tableau Public requires internet

9. CONCLUSION

The EV Charge & Range Analysis project successfully demonstrates how data visualization can simplify complex EV datasets and provide meaningful insights for users.

10. FUTURE SCOPE

- Real-time EV market updates
- AI-based EV prediction models
- Mobile app dashboard version

11. APPENDIX

Tableau public link
https://public.tableau.com/views/ElectricVehicleChargeandRangeAnalysis_17713481097120/Story1?:language=en-US&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

Github Link

https://github.com/VedhaSri-2005/EV-Charge-Range-Analysis