ATLIQ MOTORS

ELECTRIC VEHICLES SALES ANALYSIS

by Siddharth Sharma

Problem Statement

AtliQ Motors, a leading automotive company from the USA specializing in electric vehicles (EV), has seen significant growth in the North American market, capturing a 25% market share in the electric and hybrid vehicles segment over the last five years. With ambitious expansion plans, AtliQ Motors aims to introduce their bestselling EV models to the Indian market, where their current market share is less than 2%.

Therefore, to increase market share, this report contains a comprehensive analysis of the existing EV/Hybrid market in India, as commissioned by the Chief of AtliQ Motors India and assigned to the data analytics team

Data Used

electric_vehicle_sales_by_state.csv

- **date**: The date on which the data was recorded. Format: DD-MMM-YY. (Data is recorded on a monthly basis)
- **state**: The name of the state where the sales data is recorded. This indicates the geographical location within India.
- **vehicle_category**: The category of the vehicle, specifying whether it is a 2-Wheeler or a 4-Wheeler.
- **electric_vehicles_sold**: The number of electric vehicles sold in the specified state and category on the given date.
- **total_vehicles_sold**: The total number of vehicles (including both electric and non-electric) sold in the specified state and category on the given date.

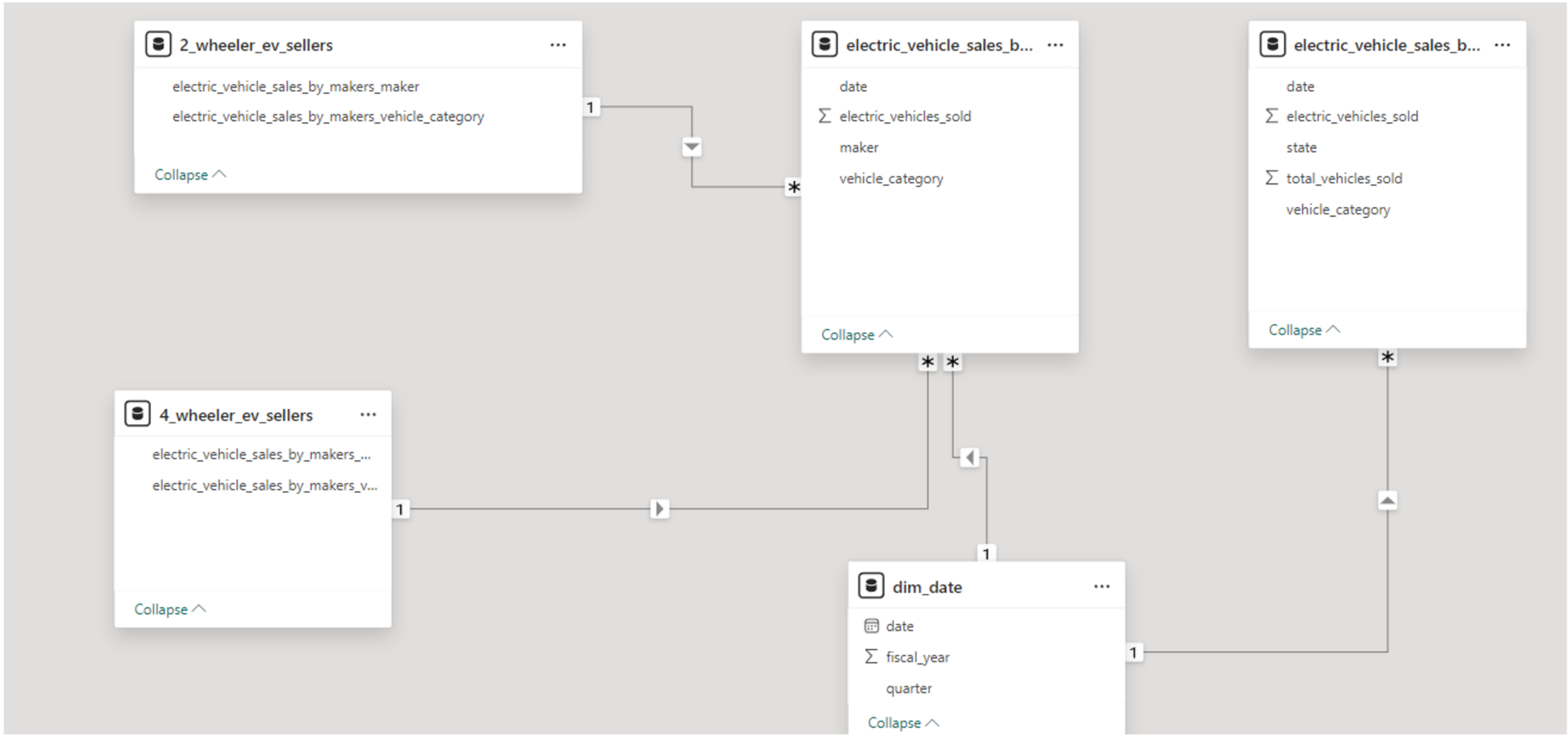
electric_vehicle_sales_by_makers.csv

- **date**: The date on which the sales data was recorded. Format: DD-MMM-YY. (Data is recorded on a monthly basis)
- **vehicle_category**: The category of the vehicle, specifying whether it is a 2-Wheeler or a 4-Wheeler.
- **maker**: The name of the manufacturer or brand of the electric vehicle.
- **electric_vehicles_sold**: The number of electric vehicles sold by the specified maker in the given category on the given date.

dim_date.csv

- **date**: The specific date for which the data is relevant. Format: DD-MMM-YY. (Data is recorded on a monthly basis)
- **fiscal_year**: The fiscal year to which the date belongs. This is useful for financial and business analysis.
- **quarter**: The fiscal quarter to which the date belongs. Fiscal quarters are typically divided as Q1, Q2, Q3, and Q4.

Data Model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Sales Trends over time

- In India, the fiscal year runs from April to March. At the end of every fiscal year, March sees a notable increase in sales for both 2-wheelers ev and 4-wheelers ev. This surge is driven by the end-of-year push to meet annual targets, leading to attractive promotional offers and discounts that entice buyers.

2-Wheeler

01 February 2022	35722	18.59% ▲	-
01 March 2022	54398	52.28% ▲	-
01 April 2022	53275	-2.06% ▼	836.46% ▲

01 February 2023	66071	2.15% ▲	84.96% ▲
01 March 2023	86306	30.63% ▲	58.66% ▲
01 April 2023	66814	-22.58% ▼	25.41% ▲

01 February 2024	81963	0.76% ▲
01 March 2024	129605	58.13% ▲

4-Wheeler

01 February 2022	2449	58.00% ▲	-
01 March 2022	3720	51.90% ▲	-
01 April 2022	2249	-39.54% ▼	259.27% ▲

01 February 2023	4756	38.34% ▲	94.20% ▲
01 March 2023	8820	85.45% ▲	137.10% ▲
01 April 2023	6004	-31.93% ▼	166.96% ▲

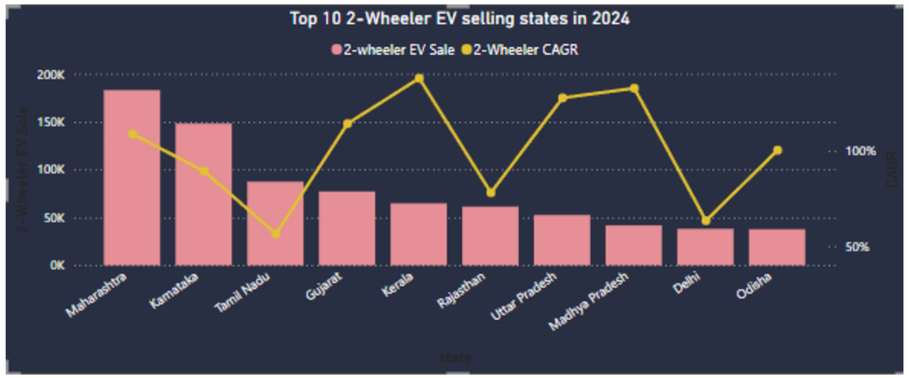
01 February 2024	7088	-11.0
01 March 2024	8738	23.2

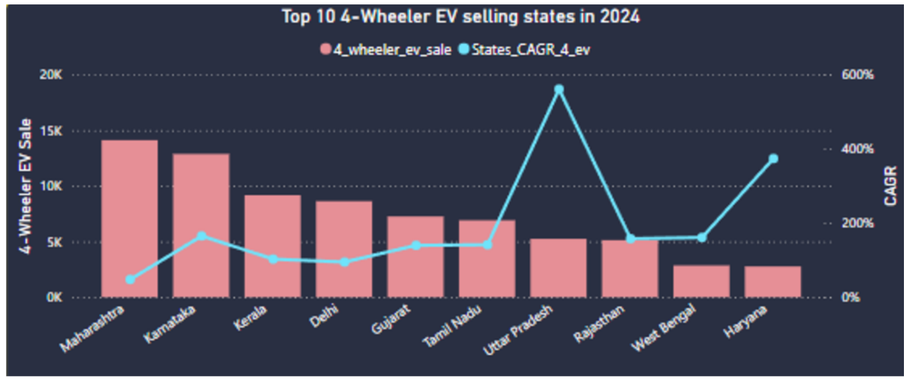
- The maximum sale of 2-Wheelers in a fiscal year is observed to be in the month of India’s biggest festival, Diwali.(Note: This includes sum of ev and non_ev 2-wheelers).

- India’s EV sales surged by approximately 160% in FY 2023, fueled by growing consumer interest, supportive government initiatives, infrastructure development, rising fuel prices and increasing concerns about climate change.

Sales Performance in States

- Maharashtra leads in the number of EVs sold, recording the highest sales in FY 2022, 2023, and 2024.

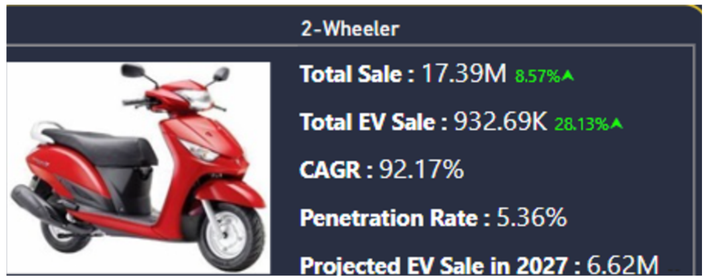


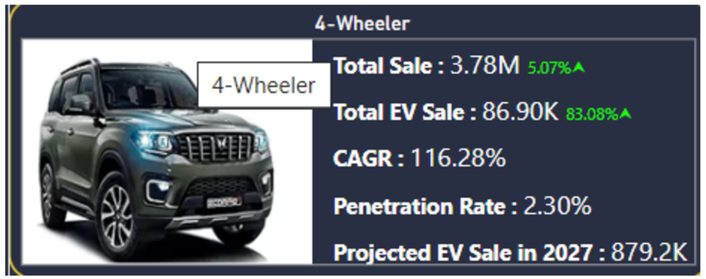


- Although Uttar Pradesh leads in 2-wheeler sales, its penetration rate remains low, even in FY 2024. The penetration rate was 0.46% in FY 2022, 1.14% in FY 2023, and 2.08% in FY 2024.
- However, Uttar Pradesh boasts an impressive CAGR of 561% in 4-wheeler EV sales. If this trend continues, it could become the leading seller of 4-wheeler EVs by 2027.
- Considering total sale of all kind 2-wheelers and 4-wheelers in the last three fiscal year, Goa has the highest penetration rate of 12.5% and 3.44 % respectively.
- Among the top 5 leading 2 wheeler selling states, Karnataka has the highest penetration rate.
- In FY 2024, the top 5, 2 -wheeler ev selling state comprises 60% of market share

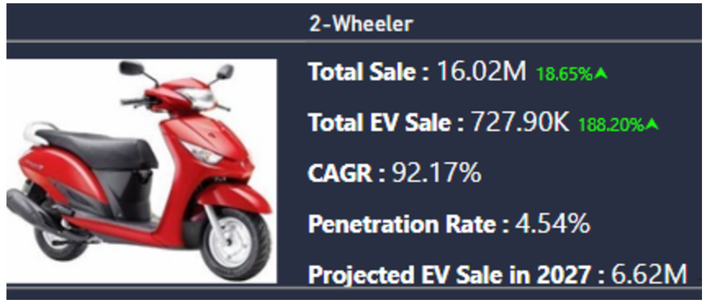
Pan India 2-Wheeler EV vs 4 -Wheeler EV Sale

FY 2024

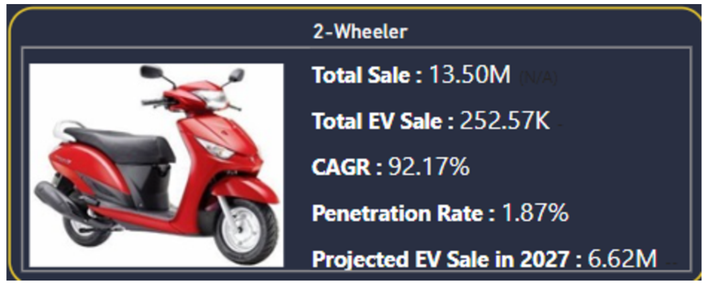


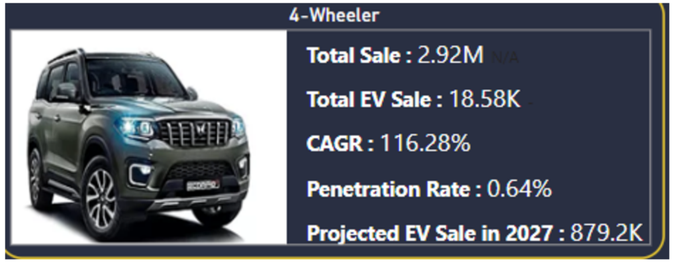


FY 2023



FY 2022





2-Wheeler Makers

- According to data, Ola Electric is the biggest seller of 2-wheeler EV vehicles, selling 322.5k electric vehicles in the fiscal year 2024. Fom fiscal year 2022 to fiscal year 2024, It has observed a whopping CAGR of 373%.

Top 10 Two-Wheeler EV Makers by Sales in 2024

maker	Total EV Sale	Market Share %
OLA ELECTRIC	322.5K	34.58%
TVS	180.7K	19.38%
ATHER	107.6K	11.53%
BAJAJ	105.7K	11.33%
OTHERS	78.7K	8.43%

- Ola Electric is followed by TVS, which sold 180.7k vehicles in the fiscal year 2024.
- Hero Electric, which was the leading seller in 2022 with 69.5k sales, slipped down to the 10th position by the end of the fiscal year 2024.
- Ola Electric, TVS, Ather, and Bajaj collectively own 75% of the market.
- The downfall of Hero Electric is a case in point.

4-Wheeler EV Makers

- In the 4-wheeler EV segment, TATA has been the biggest seller, with a market share of 55% by the end of the fiscal year 2024.
- The second biggest seller is Mahindra & Mahindra, with a market share of 27% in the fiscal year 2024. The CAGR of Mahindra & Mahindra is 140%, and at this rate, it could surpass TATA in the upcoming years.
- The third biggest seller is MG Motor, with a market share of 10.16% of all vehicles sold.

- These three major makers collectively own 90% of the market in the fiscal year 2024.

Top 10 4-Wheeler EV Makers by Sales in 2024

maker	Total EV Sale	Market Share %
Tata Motors	48181	55.44%
Mahindra & Mahindra	23346	26.87%
MG Motor	8829	10.16%

key government initiatives aimed at boosting EV sales in India:

- Here are some key government initiatives from 2021 aimed at boosting EV sales in India:
- Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) II Scheme: Extended with increased incentives for electric two-wheelers, three-wheelers, and four-wheelers. The scheme also included subsidies for the installation of charging infrastructure.
- Production Linked Incentive (PLI) Scheme for Automotive Sector: Launched to boost domestic manufacturing of advanced automotive technology, including EVs, with financial incentives for manufacturers to increase production.
- National Electric Mobility Mission Plan (NEMMP) 2020: Continued support under this plan to promote electric vehicles and battery technology through various incentives and infrastructure development.
- State-Level Policies: Various states introduced or enhanced their own EV policies, including subsidies, tax exemptions, and reduced registration fees to encourage EV adoption. Examples include Delhi's EV Policy and Maharashtra's EV Policy.
- Charging Infrastructure Development: Increased focus on expanding the EV charging network across the country, including setting up public charging stations and providing incentives for private investments in charging infrastructure.
- Battery Swapping Policy: Encouragement of battery swapping technology for electric two-wheelers and three-wheelers to address range anxiety and reduce the upfront cost of EVs.
- Incentives for EV Buyers: Continued financial incentives and subsidies for consumers purchasing electric vehicles, including reduced GST rates and direct cash subsidies under various state and central schemes.

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Recommandations

- If AtliQ Motors is planning to introduce a new model in the Indian market, it should do so well in advance of the Indian festival season so that the brand becomes well-known by that time. As the data shows an increase in sales during the festival season around October and November, this timing would likely boost sales.

- States like Uttar Pradesh, which sell the highest number of 2-wheelers and the second highest number of 4-wheelers, have a very low penetration rate for electric vehicles (EVs). This might suggest that people are still not very comfortable with EVs, possibly due to factors such as lack of trust, limited charging stations, and cost concerns. As a result, no EV brand has yet managed to dominate the market in Uttar Pradesh. Therefore, it would be strategic to invest in Uttar Pradesh initially, with the potential to become a leading seller in the EV category in the future.
- Nowadays, the general public is increasingly preferring domestically manufactured vehicles. Therefore, it would be strategic to set up production plants in India. Gujarat is currently leading in terms of preference for establishing electric vehicle manufacturing plants.
- The demand for medium-priced vehicles is higher. Therefore, it would be advantageous to launch medium-priced vehicles in both the 2-wheeler and 4-wheeler categories.