I

Indian EV Market Analysis

CREATED BY - AVIRUP MITRA

Agenda

- Overview
- Problem Statement
- Goal
- Dashboard Screenshots
- Primary Analysis
- Secondary Analysis
- Additional Info
- Recommendations

Overview

AtliQ Motors is an automotive giant from the USA specializing in electric vehicles (EVs). In the last 5 years, their market share rose to 25% in the electric and hybrid vehicles segment in North America

Problem Statement

As a part of their expansion plans, they wanted to launch their bestselling models in India where their market share is less than 2%. Bruce Haryali, the chief of AtliQ Motors India wanted to do a detailed market study of the existing EV/Hybrid market in India before proceeding further.

Goal

Bruce gave this task to the data analytics team of AtliQ motors to analyze a few required matrices to understand the market and design a proper dashboard with those matrices, and also to come up with a few recommendations after researching the market to help them understand the Indian EV market properly before launching their best-selling EV products in India.

AtliQ
ELECTRIC VEHICLES

Dashboard

Brand Performance

State-wise Data

2-Wheelers | 4-Wheelers

21-22

22-23

23-24

Total Units Sold

2.07M

Penetration

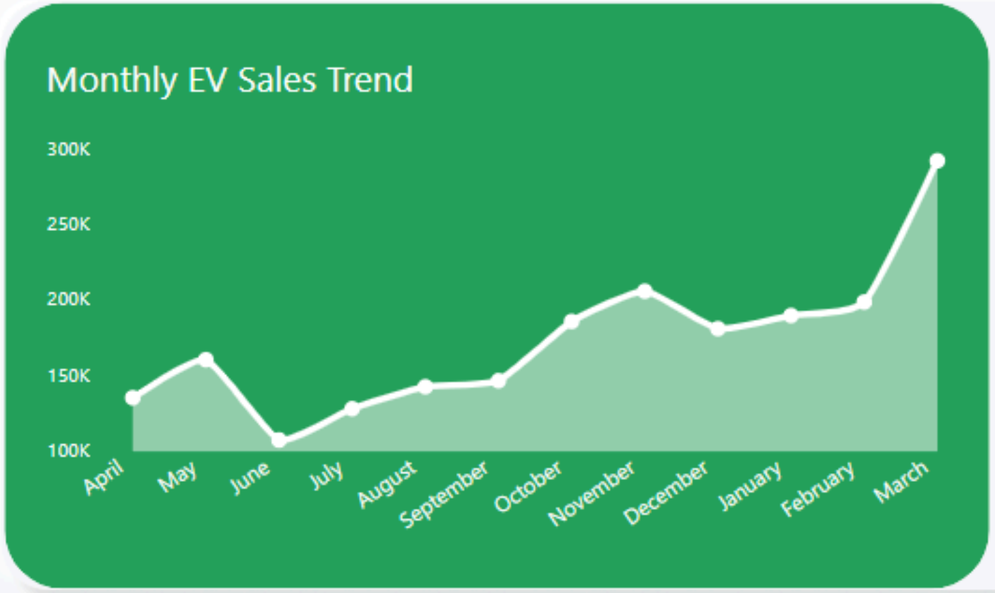
3.61%

Approx. Revenue

495bn

Indian 17

8 Foreign



Top Selling Brand

OLA ELECTRIC

EV Sold

489K

Revenue Growth Rate

FY 21-22 to FY 22-23

190.37%

FY 22-23 to FY 23-24

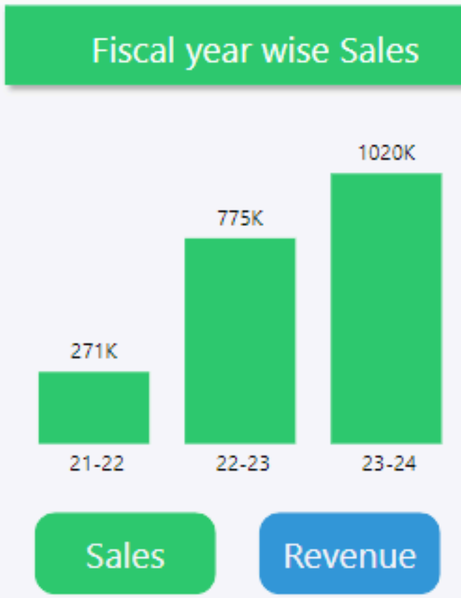
62.67%

Top State

Maharashtra

EV Sold

396K



AtliQ
ELECTRIC VEHICLES

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State-wise Data

2-Wheelers | 4-Wheelers

21-22

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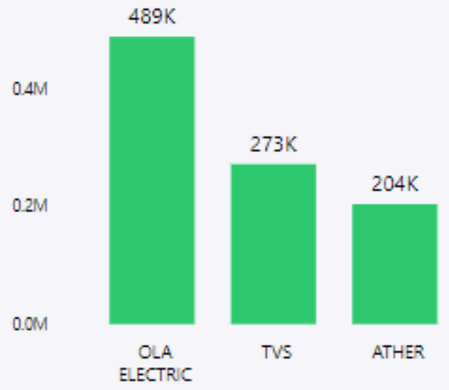
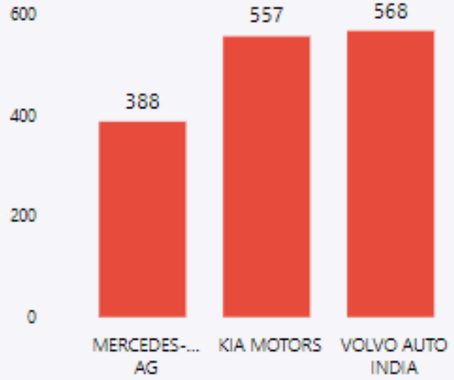
23-24

Top 3 Brands Sold



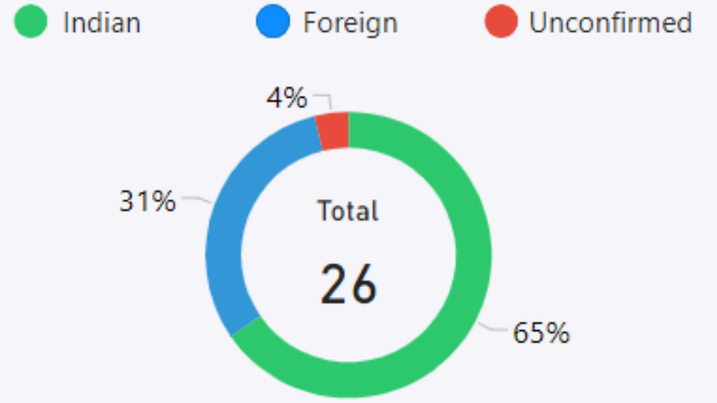
Bottom 3 Brands Sold



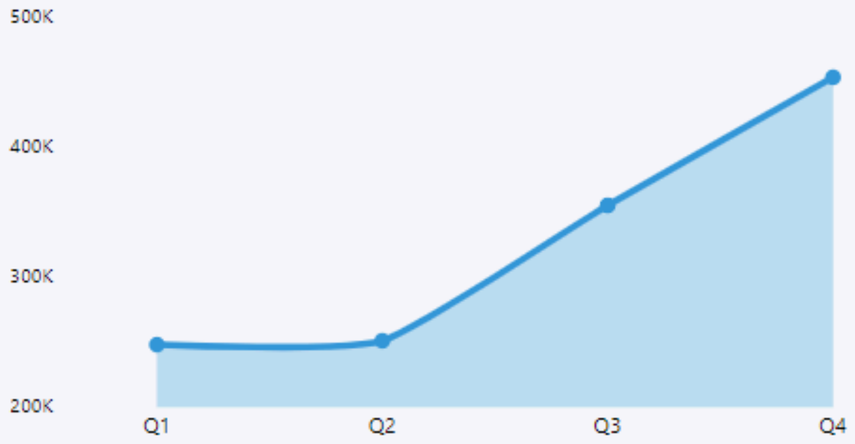
Brand wise proportion

Top 5 Brands (Revuenue)

Brand Proportion



Quarterly Sales Trend of Top 5 Brands Sold



Brand wise Details

Average Price | CAGR(Makers) | Share(EV Sales) | Share(Revenue) | EV Sold

AMPERE	₹ 95,000
ATHER	₹ 150,000
BAJAJ	₹ 135,000
BATTRE ELECTRIC	₹ 87,000
BENLING	₹ 86,000
BGAUSS	₹ 135,000

AtliQ
ELECTRIC VEHICLES

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Brand Performance

State-wise Data

2-Wheelers | 4-Wheelers

21-22

22-23

23-24

Penetration wise Top 5 States

Goa 9.84%

Karnataka 7.84%

Delhi 6.76%

Kerala 6.64%

Maharashtra 6.49%

States with declined penetration 2022-2023

Andaman & Nicobar -0.08%

Gujarat -0.19%

Haryana -0.43%

Himachal Pradesh

States with declined penetration 2023-2024

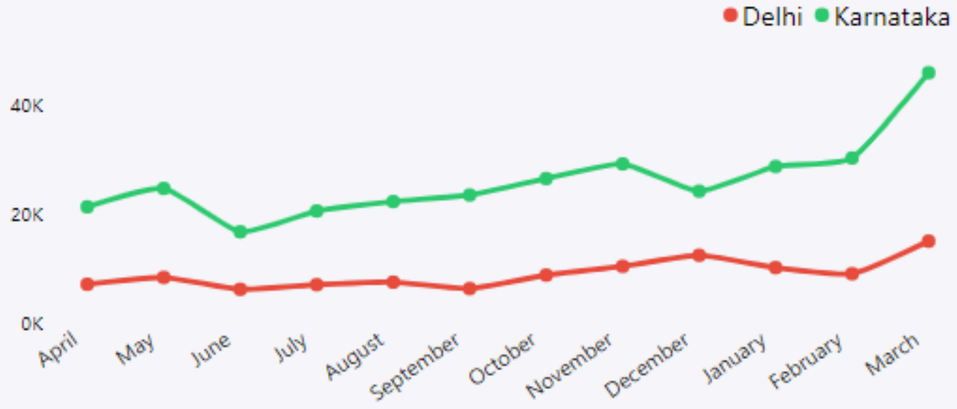
Correlation with PCS

Revenue | EV Sales | Correlation with PCS

EV Sold | Penetration | All | Top 5

State-wise Comparison

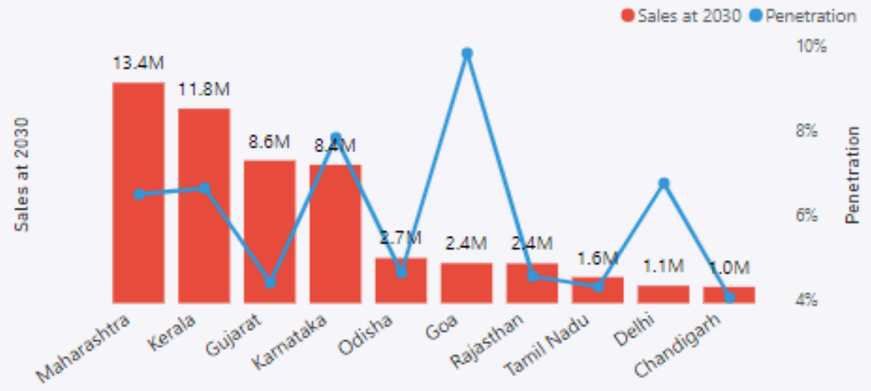
Multiple selections



EV Sold (States) | Penetration

Please select only 2 states for better comparison

Projected Sale of Top 10 States PR% wise (2030)



CAGR (Top 10) | Projected Sale

Details ->

- Andaman & Nicobar
- Andhra Pradesh
- Arunachal Pradesh
- Assam
- Bihar
- Chandigarh
- Chhattisgarh
- Delhi
- DNH and DD
- Goa
- Gujarat
- Haryana
- Himachal Pradesh
- Jammu and Kashmir
- Jharkhand
- Karnataka
- Kerala
- Ladakh
- Madhya Pradesh
- Maharashtra
- Manipur
- Meghalaya
- Mizoram
- Nagaland
- Odisha
- Puducherry
- Punjab
- Rajasthan
- Sikkim
- Tamil Nadu
- Tripura
- Uttar Pradesh
- Uttarakhand
- West Bengal

Back

More

21-22 | 22-23 | 23-24

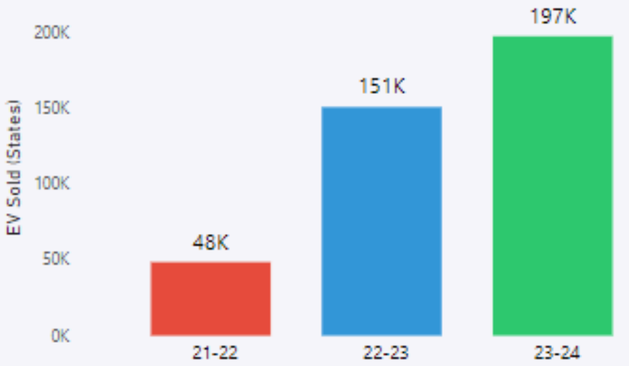
Maharashtra

2-Wheelers | 4-Wheelers

EV Sold	Vehicle Sold	Total PCS
396K	6.10M	3079

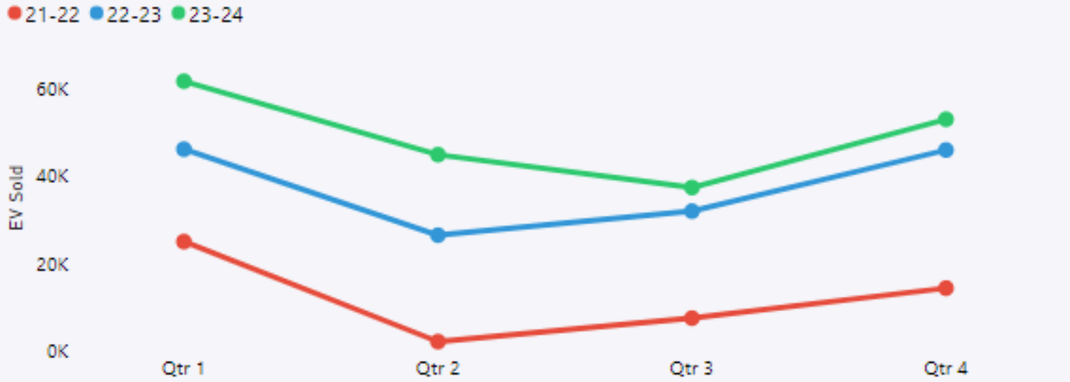
Penetration %	EV CAGR %	Revenue
6.49%	101.89%	₹ 149bn

EV Sales

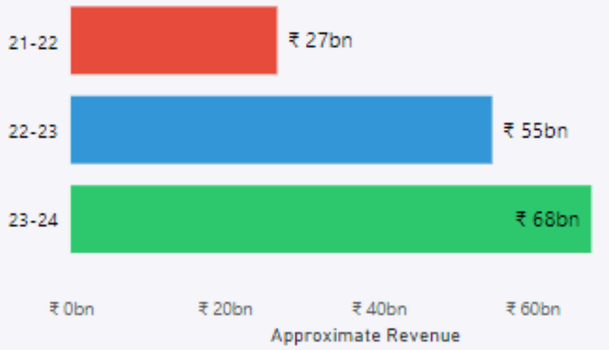


Trend

EV Sold | Approximate Revenue



Approximate Revenue



21-22 | 22-23 | 23-24 | 2-Wheelers | 4-Wheelers

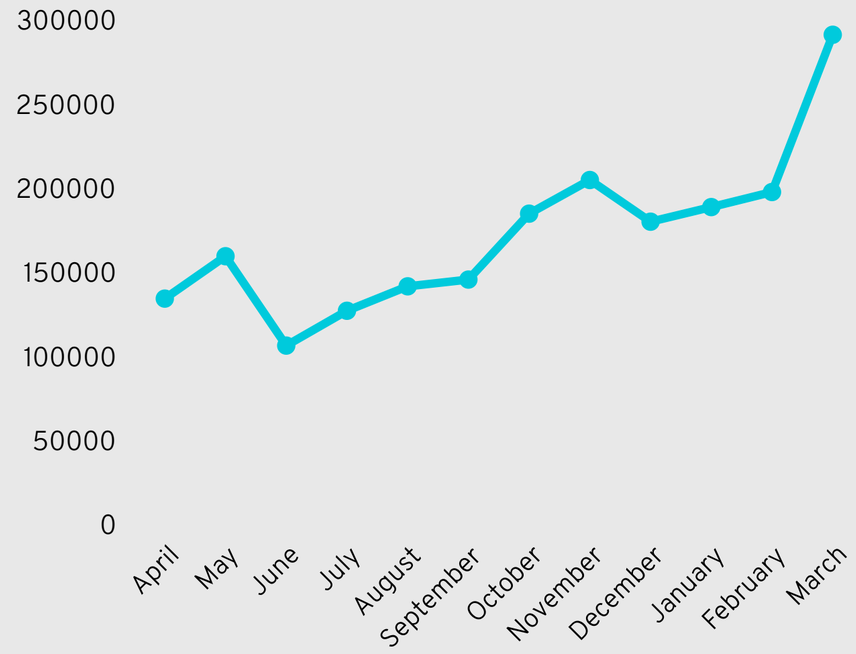
State-wise Details

state	EV Sold (States)	Total Vehicle Sold	Penetration	CAGR EV (States)	Approximate Revenue	Sum of Total PCS
Andaman & Nicobar	80	18885	0.42%	26.13%	₹ 154,200,000	3
Andhra Pradesh	77422	2283871	3.39%	54.35%	₹ 19,040,400,000	327
Arunachal Pradesh	33	71547	0.05%	0.00%	₹ 101,900,000	9
Assam	6418	1403271	0.46%	118.87%	₹ 2,188,800,000	86
Bihar	31019	3048373	1.02%	76.65%	₹ 6,498,500,000	124
Chandigarh	5279	130628	4.04%	164.58%	₹ 6,052,900,000	12
Chhattisgarh	53804	1334989	4.03%	150.89%	₹ 11,891,400,000	149
Delhi	107312	1588436	6.76%	68.10%	₹ 72,386,800,000	1886
DNH and DD	355	43397	0.82%	137.85%	₹ 287,100,000	1
Goa	19684	199970	9.84%	146.45%	₹ 8,938,400,000	113
Gujarat	181389	4125551	4.40%	116.33%	₹ 58,367,700,000	476
Haryana	30797	1902768	1.62%	41.07%	₹ 18,182,500,000	377
Himachal Pradesh	2595	325366	0.80%	53.81%	₹ 1,089,100,000	44
Jammu and Kashmir	5971	414553	1.44%	26.18%	₹ 1,440,300,000	47
Jharkhand	18461	1364886	1.35%	69.89%	₹ 4,481,100,000	135
Karnataka	312995	3994329	7.84%	93.24%	₹ 101,563,900,000	1041
Kerala	137060	2064677	6.64%	132.83%	₹ 69,693,800,000	852

Peak and low season months for EV sales

Overall in June the sales are hitting the bottom and reaching the highest in March.

- **For a car taxes play a big role in deciding the price, so to avoid any possibility of a price hike based on the new tax regime, the sales are high at the end of the fiscal year.**
- **Brands have sales targets for each fiscal year so to fulfill that target they might introduce attractive offers and benefits**
- **Brands may release special promotions, discounts, or clearance sales at the end of the fiscal year to clear out inventory and make room for new stock**



The estimated revenue growth rate

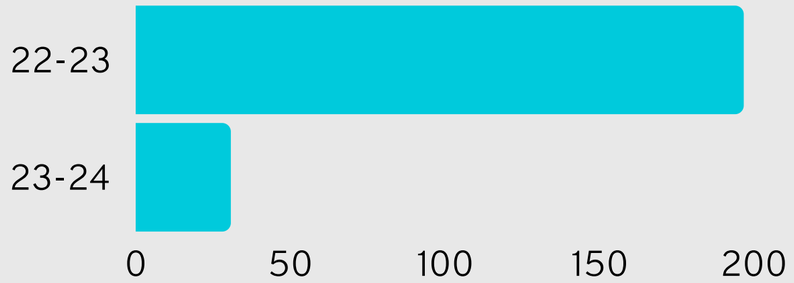
FY 22 vs FY 23

For both 2-wheelers and 4-wheelers, the revenue growth is substantial (**196.7%**, and **184.5%** respectively).

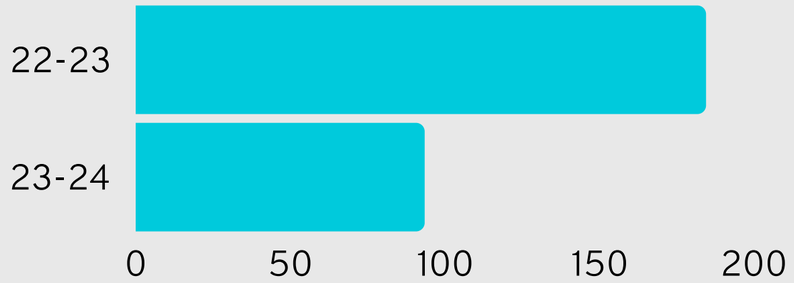
FY 23 vs FY 24

We have seen that the growth rate dropped substantially than the previous period. For 2-wheelers, the growth rate is **30.75%** and for 4-wheelers the growth rate is **93.46%**.

2 Wheelers

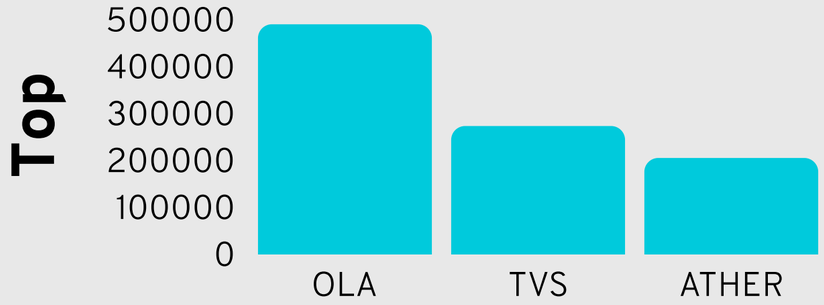


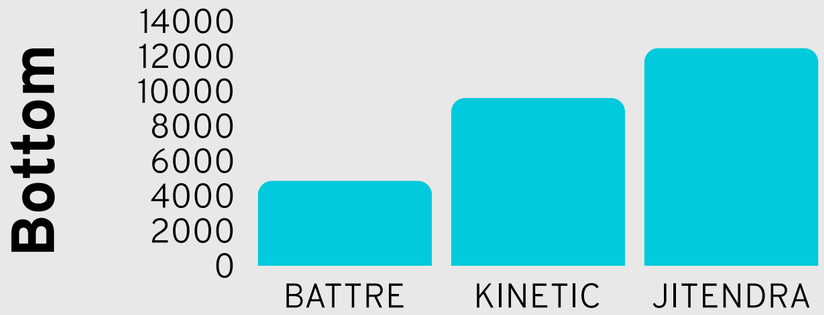
4 Wheelers



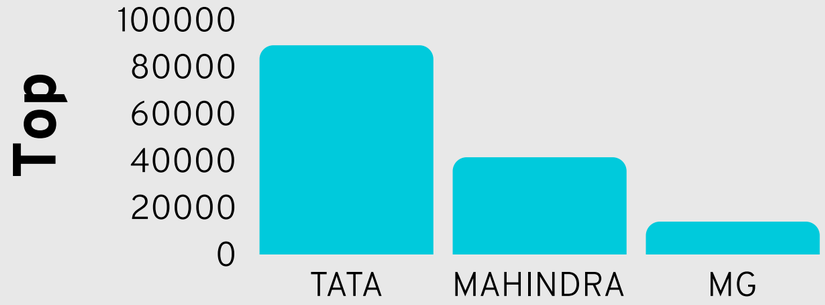
Top and Bottom 3 EV Brands sold

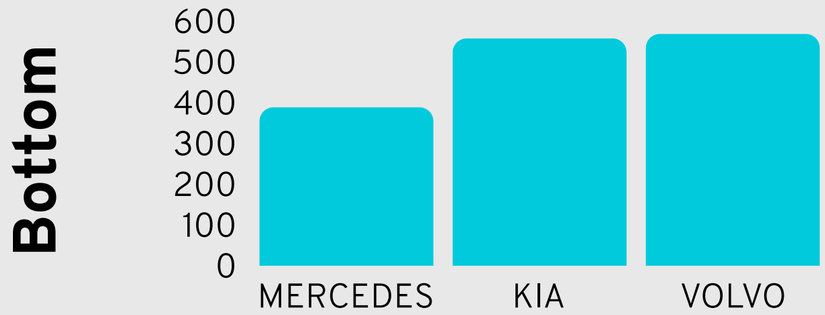
2 Wheelers





4 Wheelers

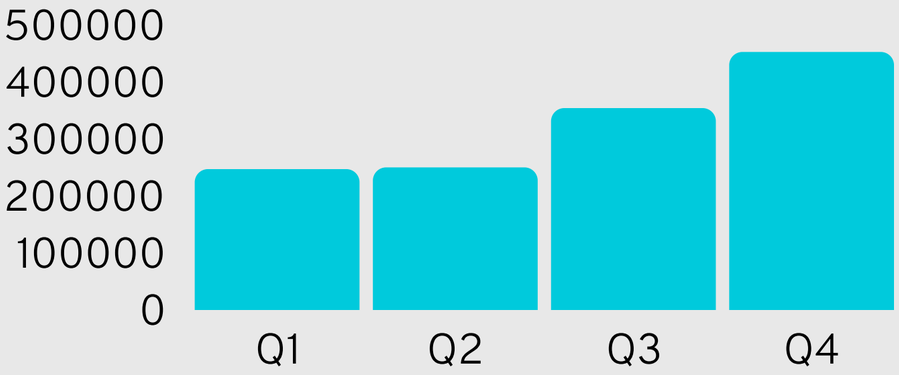




Quarterly Sales trend of top 5 EV brands

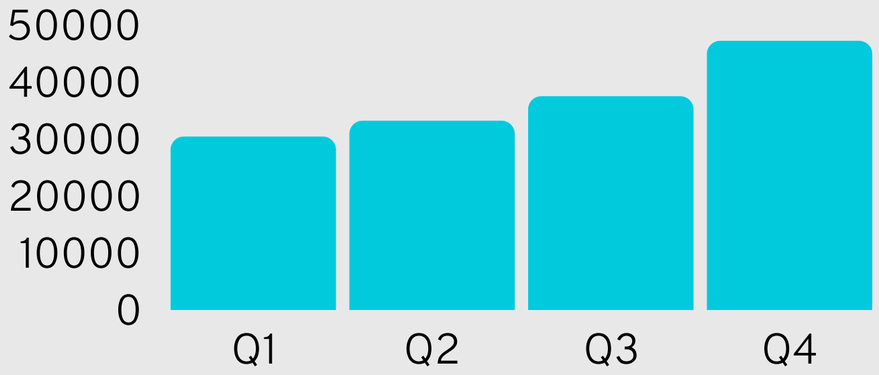
2 Wheelers

Sales are almost constant between Q1 and Q2. And from Q2 onwards the sales have grown at nearly the same growth rate and reached highest in Q4.



4 Wheelers

Sales have grown almost constantly from the beginning and the growth rate slightly increased between Q3 and Q4 and reached the highest in Q4.



CAGR% of Top 5 Brands

2 Wheelers	
OLA ELECTRIC	373.22%
TVS	330.80%
ATHER	132.04%
AMPERE	46.01%
HERO ELECTRIC	-58.52%

4 Wheelers	
BYD INDIA	566.52%
HYUNDAI	255.48%
MAHINDRA	140.33%
MG	131.53%
TATA	94.71%

Top 5 States with highest PR% in FY 2024

2 Wheelers	
GOA	17.99%
KERALA	13.52%
KARNATAKA	11.57%
MAHARASHTRA	10.07%
DELHI	9.40%

4 Wheelers	
KERALA	5.76%
CHANDIGARH	4.50%
DELHI	4.29%
KARNATAKA	4.26%
GOA	4.25%

We have observed that GOA (Because of its small size), KERALA (Because of its high adoption rate, suitable climate, and a good number of PCSs), DELHI (Because of awareness due to high pollution, high number of PCS), KARNATAKA (Because of home of many EV makers, rich in technology and innovation with the second highest in terms of total PCS) are common between both 2 and 4 wheeler categories.

States with negative PR% in EV Sales

FY22 to FY23

ANDAMAN AND NICOBAR	-0.08%

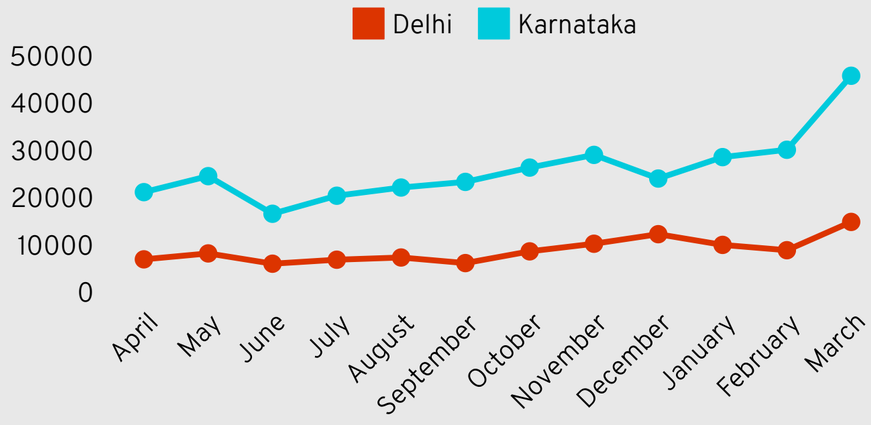
FY23 to FY24

HIMACHAL PRADESH	-0.11%	UTTARAKHAND	-0.39%
JHARKHAND	-0.15%	HARYANA	-0.43%
GUJARAT	-0.19%	RAJASTHAN	-0.56%

Delhi vs Karnataka

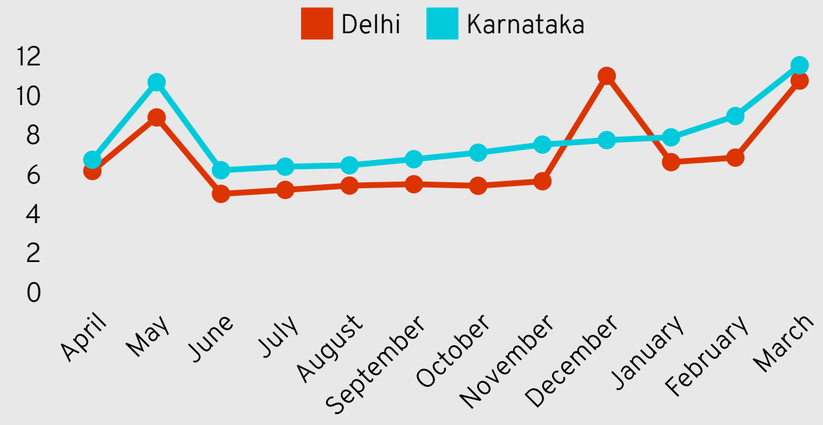
EV Sale

EV sales in Karnataka are much higher than that in Delhi. Karnataka is in 2nd Position in terms of sales whereas Delhi is in 7th position



Penetration

Between December to January and between May to June, the rates are high in Delhi, Karnataka is ahead all the other time



Possible reasons could be that Karnataka is the origin of many Indian EV brands and startups, Has a better service network, and more PCSs compared to Delhi.

Top 10 States with highest cagr% in Sales

MEGHALAYA	28.47%	GUJARAT	20.55%
GOA	27.41%	ASSAM	20.13%
KARNATAKA	25.28%	MIZORAM	18.77%
DELHI	22.88%	ARUNACHAL PRADESH	18.30%
RAJASTHAN	21.50%	ANDAMAN & NICOBAR	18.29%

Based on Total Vehicle Sold

We have common States like Goa, Karnataka, and Delhi which are also among the top states in terms of EV sales/Penetration rate and CAGR% in EV sales

EV Sales for 2030 Top states (highest PR%)

MAHARASHTRA	13351146	GOA	2419574
KERALA	11779401	RAJASTHAN	2404794
GUJARAT	8646246	TAMIL NADU	1579547
KARNATAKA	8383406	DELHI	1054259
ODISHA	2732814	CHANDIGARH	986811

According to projected sales, Maharashtra, Kerala, Gujarat, Karnataka will have remarkable EV sales in 2030.

We found that states like Goa, Karnataka, Maharashtra, Delhi, Gujarat, Kerala, and Tamil Nadu are common in between projected sales and either Penetration/EV sales/Revenue as the top 5 or 10

Why customers choosing EVs in 2023-2024

Economic Factors

- The escalating cost of petrol and diesel has made EVs a financially attractive alternative
- Reduced maintenance and fuel expenses offer significant long-term savings.
- Subsidies and tax benefits provided by the government have boosted EV adoption

Environmental Concerns

- Growing awareness of air pollution in urban areas has driven the demand for cleaner vehicles.
- Consumers are increasingly conscious of their environmental impact

Technological Advancements

- Longer driving distances on a single charge
- Modern EVs offer cutting-edge technology, including connectivity and safety
- The silent nature of EVs enhances driving comfort

Why customers choosing EVs in 2023-2024

Economic factors

- Despite the higher upfront cost, EVs are considered more cost-effective in the long run. Lower fuel expenses, reduced maintenance costs, and government incentives make them attractive for budget-conscious consumers. In India, the total cost of ownership (TCO) for electric two-wheelers and three-wheelers is already lower than that of their ICE counterparts, driving their popularity.
- Government incentives also play a significant role in the economic appeal of EVs. Subsidies under the FAME (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) scheme and tax benefits reduce the upfront costs, making EVs more accessible to the average Indian buyer. State-specific incentives, such as exemptions from road tax and registration fees, further enhance the cost-effectiveness of EVs.
- The rising fuel prices in India have had a significant influence on the growth of electric vehicle (EV) sales. With traditional fuel costs continuing to increase, Indian consumers are looking for alternatives that reduce their dependency on expensive fossil fuels

Why customers choosing EVs in 2023-2024

Environmental Concerns

- Environment-related issues are one of the key reasons why people desire to acquire electric automobiles. Many people are seeking methods to lessen their carbon footprint as the globe becomes more conscious of the impact of CO2 emission on the earth. Electric vehicles release much less CO2 than regular gasoline-powered automobiles, making it a more environmentally responsible option.
- The primary motivation is the reduction of air pollution, particularly in cities that suffer from severe pollution like Delhi. Electric vehicles produce zero tailpipe emissions, which directly contribute to improving air quality and reducing the public health impacts associated with air pollution. This is particularly critical given the high levels of air pollution in urban centers, which contribute to thousands of premature deaths each year
- Another key factor is the growing concern about climate change. EVs align with India's efforts to reduce greenhouse gas emissions and dependency on fossil fuels. The government is actively promoting EVs as part of its national strategy to transition to renewable energy and combat the impacts of climate change.

World Economic Forum, McKinsey & Company

Why customers choosing EVs in 2023-2024

Technological Advancements

- Lithium-ion (Li-ion) batteries remain the cornerstone of most EVs, offering high energy density, longer range, and faster charging times. Recent developments, such as graphene batteries, promise even greater energy efficiency and shorter charging times. For example, some graphene batteries can charge up to 80% in just eight minutes.
- As of February 13, 2024, India has established 12,146 operational public charging stations, with Maharashtra and Delhi leading the count by 3,079 and 1,886 stations, respectively. This represents a remarkable growth of around 640% in the past two years, reflecting a rapidly expanding market. The surge in EV charging facilities can be attributed to heightened government support and an increase in EV adoption among consumers. The momentum is expected to continue, paving the way for exponential growth in the sector as it responds to evolving policies and the shifting preferences of environmentally conscious drivers
- Modern EVs are equipped with advanced connectivity features, including IoT integration, mobile apps, and real-time data access. These smart features enhance the user experience by providing seamless access to vital information, such as charging status and range, thereby making EVs more attractive to tech-savvy consumers.
- electric motors and lightweight materials have significantly improved the performance and energy efficiency of EVs. This makes them a practical choice for daily commuting, especially in congested urban areas where electric two-wheelers are becoming increasingly popular

SteeRev, EV inFocus, India Brand Equity Foundation, ElectricPe

Govt. incentives and subsidies

FAME India Scheme

Launched in 2015, FAME aims to promote the adoption of EVs by providing financial incentives. The scheme targets both the demand side (subsidies for consumers) and the supply side (support for infrastructure like charging stations)

- **FAME I:** The first phase focused on hybrid and electric vehicles in public transport, and provided subsidies for vehicles and charging infrastructure.
- **FAME II (2019-2024):** With a budget of ₹10,000 crore (approximately $1.2 billion), FAME II primarily targets demand incentives for electric two-wheelers, three-wheelers, buses, and passenger cars. The key components include:
    - **Electric Two-wheelers:** 10 lakh registered electric two-wheelers will get an incentive of ₹ 20,000 each.
    - **Electric Four-wheelers:** 35,000 electric 4-wheelers with ex-factory price of ₹ 15 lakh will get an incentive of ₹ 1.5 lakh each
    - **Hybrid Four-wheelers:** Through this scheme, the Government will provide ₹ 13,000 - ₹ 20,000 as an incentive to hybrid 4-wheelers with an ex-factory price of ₹ 15 lakh.
    - **e-rickshaws:** 5 lakh e-rickshaws (each) can avail ₹ 50,000 as incentives.
    - **e-buses:** Nearly 8000 e-buses with a maximum ex-factory price of ₹ 2 crores will receive an incentive of ₹ 50 lakh each.

Govt. incentives and subsidies

PLI Scheme

The PLI scheme, unveiled by the government in 2021 with a budgetary outlay of INR 25,938 crore, aims to boost domestic manufacturing of Advanced Automotive Technology (AAT) products and attract investments in the automotive manufacturing value chain. The scheme focuses on Zero Emission Vehicles (ZEVs), such as Battery Electric and Hydrogen Fuel Cell Vehicles, by providing financial incentives to automobile OEMs and component makers.

- **Financial Incentives:** The scheme offers financial incentives to manufacturers based on their incremental sales of EVs and their components.
- **Focus on Advanced Automotive Technology (AAT):** The PLI scheme encourages the development of advanced technologies in the automotive sector. This includes electric and hydrogen fuel cell vehicles, as well as critical components like advanced batteries, power electronics, and EV charging equipment.
- **Focus on Local Manufacturing:** One of the core objectives of the PLI scheme is to promote localization and reduce India's dependence on imported components. The scheme aims to develop a robust domestic supply chain for EV manufacturing, from batteries to motors and beyond.

The Economic Times and miscellaneous

Govt. incentives and subsidies

Tax and Customs Benefits

- **GST Reduction:** The government has reduced the Goods and Services Tax (GST) on EVs from 12% to 5%, making them more affordable for consumers. In contrast, the GST on internal combustion engine (ICE) vehicles remains higher.
- **Income Tax Deductions:** Consumers purchasing EVs are eligible for additional income tax deductions of up to ₹1.5 lakh (approximately $1,800) on the interest paid on loans taken to buy EVs under Section 80EEB.
- **Customs Duty Exemptions:** The government offers customs duty exemptions on various components used in the production of electric vehicles, such as batteries and electric motors. This reduces the cost of production and encourages manufacturers to localize EV production

Govt. incentives and subsidies (State-wise)

4 Wheelers

State	Subsidy (Per kWh)	Maximum subsidy	Discount on road tax
Maharashtra	Rs. 5,000	Rs. 2,50,000	100%
Gujarat	Rs. 10,000	Rs. 1,50,000	50%
Meghalaya	Rs. 4,000	Rs. 60,000	100%
Assam	Rs. 10,000	Rs. 1,50,000	100%
Bihar	Rs. 10,000	Rs. 1,50,000	100%
West Bengal	Rs. 10,000	Rs. 1,50,000	100%
Odisha	NA	Rs. 1,00,000	100%
Rajasthan	Nil	Nil	NA
Uttar Pradesh	Nil	Nil	75%
Kerala	Nil	Nil	50%
Karnataka	Nil	Nil	100%
Tamil Nadu	Nil	Nil	100%
Telangana	Nil	Nil	100%
Madhya Pradesh	Nil	Nil	99%
Andhra Pradesh	Nil	Nil	100%
Punjab	Nil	Nil	100%

2 Wheelers

State	Subsidy (Per kWh)	Maximum subsidy	Discount on road tax
Maharashtra	Rs. 5,000	Rs. 25,000	100%
Meghalaya	Rs. 10,000	Rs. 20,000	100%
Gujarat	Rs. 10,000	Rs. 20,000	50%
Assam	Rs. 10,000	Rs. 20,000	100%
Bihar	Rs. 10,000	Rs. 20,000	100%
West Bengal	Rs. 10,000	Rs. 20,000	100%
Rajasthan	Rs. 2,500	Rs. 10,000	NA
Odisha	NA	Rs. 5,000	100%
Uttar Pradesh	Nil	Nil	100%
Kerala	Nil	Nil	50%
Karnataka	Nil	Nil	100%
Tamil Nadu	Nil	Nil	100%
Telangana	Nil	Nil	100%
Madhya Pradesh	Nil	Nil	99%
Andhra Pradesh	Nil	Nil	100%
Punjab	Nil	Nil	100%

Impact of Govt. incentives and subsidies

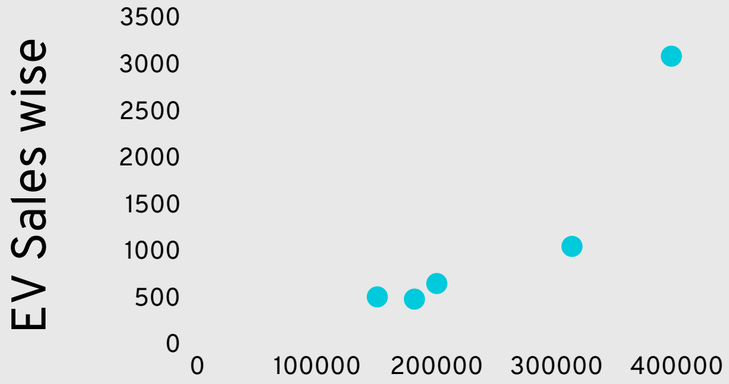
FAME

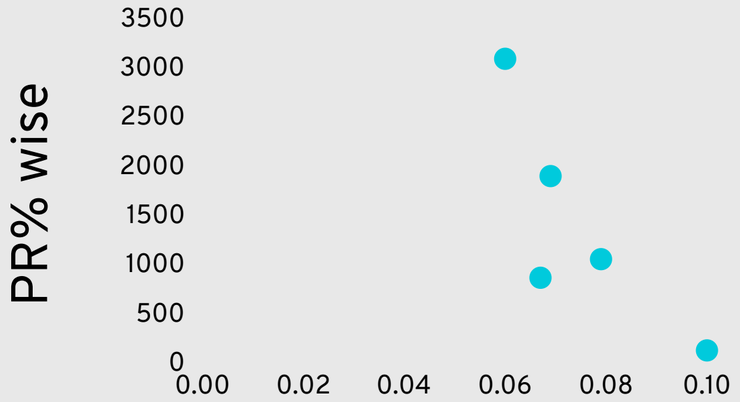
- **Boost to EV Sales:** FAME has significantly lowered the upfront costs of electric vehicles, especially two-wheelers, making them more affordable and driving higher adoption rates.
- **Public Transport Electrification:** The scheme has promoted the deployment of electric buses across various cities, reducing air pollution and dependency on fossil fuels in public transportation.
- **Charging Infrastructure Development:** By supporting the installation of thousands of charging stations, FAME has mitigated range anxiety and made EVs more accessible to the public.
- **Localization Focus:** The scheme promotes domestic manufacturing of EV components, aligning with the "Make in India" initiative and reducing reliance on imports.
- **Environmental and Economic Benefits:** FAME has contributed to reducing carbon emissions and creating job opportunities within the EV sector, enhancing both environmental and economic outcomes.
- **Market Transformation:** The initiative has accelerated the growth of India's EV ecosystem, fostering innovation and establishing a supportive policy framework for the future

PLI

- **Attracting Investment:** It has drawn significant investment in EV manufacturing.
- **Boosting Production:** Incentives based on production volumes have increased EV production capacities.
- **Creating Jobs:** The expansion of the EV sector has generated new employment opportunities.
- **Driving Technological Innovation:** Manufacturers are encouraged to advance EV technology.
- **Reducing Costs:** Increased production and competition help lower EV costs.
- **Strengthening the Domestic Supply Chain:** It supports local manufacturing of EV components and batteries

PCS vs EV sales and PR% in the top 5 states





For the EV sales-wise top 5 States the correlation is positive, but for the penetration-wise top 5 States there is no concrete correlation with the number of PCSs, but If we look at the overall picture of all states then we will observe a positive correlation for both cases.

The reasons are :

- **Range Anxiety:** A robust network of charging stations reduces consumer concerns about running out of power, making EV ownership more attractive and boosting sales
- **Urban focus:** Urban planning and infrastructure development that integrates charging points into high-traffic areas, residential communities, and workplaces significantly contributes to normalizing the electric vehicle experience
- **Policy Alignment:** Government schemes like FAME II emphasize building charging infrastructure, which is directly tied to incentives for EV purchases

Brand ambassador of AtliQ Motors and Why

My Recommendation is Virat Kohli.

- Among the top 10 most famous athletes in the world (Global Icon)
- Substantial fan base.
- Not associated with any other automotive brand.
- High engagement on Social Media.
- Credibility and positive image
- Good lifestyle representation and premium appeal
- Can establish an emotional connection with consumers.

Automotive influencers can also be a good option but in India, we don't have any moto influencer who has the same amount of exposure to the people as famous cricket icons.

Ideal State to Start

Offers one of the highest incentives, with up to ₹2.5 lakh for electric four-wheelers, ₹25,000 for two-wheelers, and ₹30,000 for three-wheelers with 100% road tax exemption.

Government Subsidies

- Highest number of EV Sold (396k)
- Penetration % is 6.49% (Top 5)
- CAGR % is 101.89%

Among the top 5 States in Sales, PR%, CAGR%

Strategic location

MAHARASHTRA

It is located almost in the middle of India thus having good access to all parts of India which will reduce Logistics costs and will have a good supply chain management infrastructure. Also has the proximity to major ports.

Economy Hub and Early Adopter consumers, No homegrown brands

- Has the largest economy in India with plenty of skilled business people
- Not occupied by homegrown brands like Karnataka
- Modern lifestyle makes people early adopters.
- Home location of many big influencers.

FEW KEY POINTS

- **Robust Demand:** The Indian EV market is forecasted to expand from US$ 3.21 billion in 2022 to US$ 113.99 billion by 2029, with a 66.52% CAGR. The Indian EV battery market is projected to surge from US$ 16.77 billion in 2023 to a remarkable US$ 27.70 billion by 2028. India is on track to become the largest EV market by 2030, with rise in investment over the next 8-10 years
- **Opportunities:** A cost-effective manufacturing base keeps costs lower by 10-25% relative to operations in Europe and Latin America. The imperative highlighted by a recent Confederation of Indian Industry (CII) report to set up 1.32 million charging stations by 2030 presents a significant growth opportunity for the electric vehicle sector. Presence of a large pool of skilled & semi-skilled workforce amidst a strong educational system.
- **Policy Support:** A subsidy of Rs. 5,790 crore (US$ 693 million) has been granted to electric vehicle manufacturers for the sale of 1,341,459 electric vehicles under phase II of the FAME India Scheme. A dedicated policy FAME II with a budgetary outlay of Rs. 10,000 crore (US$ 1.43 billion), to incentivize electric vehicle consumption and support manufacturing. 100% FDI allowed under automatic route for the auto components sector. Electric Mobility Promotion Scheme with a Rs. 500 crore (US$ 60.18 million) budget to enhance green mobility and stimulate electric vehicle manufacturing in the country.
- **Good adoption trends:** Increased environmental awareness and rising fuel prices are driving consumer interest in EVs. Initial adoption is concentrated in urban areas due to better infrastructure and higher awareness.
- **Key Players and Competition:** Major Automakers like Tata Motors, Mahindra & Mahindra, and Hyundai and EV startups like OLA Electric, and ATHER Energy are leading the EV market with various models.
- **Technological Developments:** Advances in battery technology are crucial, with ongoing research focused on improving energy density, reducing costs, and enhancing charging speed. Development of fast-charging solutions and battery-swapping technologies are being explored to address range anxiety and charging time concerns. Increased focus on integrating advanced software for vehicle management and user experience.
- **Investments:** Hyundai Motor intends to invest US$ 2.45 billion in Tamil Nadu over the next decade to enhance its electric vehicle initiatives in India. Also, the company is planning to assemble EV battery packs and install 100 charging stations for EVs. There is increasing venture capital investment in EV startups and technologies, indicating growing confidence in the market's potential. Collaborations between government bodies and private companies are driving infrastructure development and market growth

Potential Challenges

- **Underdeveloped Charging Infrastructure:** One of the biggest hurdles is the lack of widespread and reliable charging stations across the country. Although progress is being made, the current infrastructure is insufficient to support mass adoption of EVs. Expanding charging networks, especially in rural and semi-urban areas, is critical.
- **High Upfront Costs:** EVs tend to be more expensive than traditional internal combustion engine (ICE) vehicles. While the total cost of ownership may be lower in the long run, the higher upfront cost deters many potential buyers. Achieving price parity with ICE vehicles is necessary to drive mass adoption.
- **Battery Supply Chain and Technology:** The Indian EV ecosystem is dependent on imports for key components like lithium-ion batteries, which increases costs and supply chain risks. Efforts to indigenize the production of batteries and other essential components are still in the early stages.
- **Range Anxiety:** Concerns about the driving range of EVs and the availability of charging stations contribute to consumer hesitation. Although the range is improving with advancements in battery technology, it remains a significant barrier, particularly for long-distance travel.
- **Clean Energy Sources:** India's reliance on coal for electricity generation poses a challenge to the sustainability of EVs. For EV adoption to truly contribute to reducing carbon emissions, a shift towards renewable energy sources is necessary

Robots.net, Bolt Earth, IISD, Bain and miscellaneous

RECOMMEDATIONS

- Good features at an affordable price are the key to success in the Indian market. Starting up with entry-level EV models can be a good option to try out and see the adaption and performance and take decisions accordingly.
- Indian companies already have a good grip on the market scoring top in both the 2-wheelers and 4-wheelers market. So to succeed in capturing the market Atliq has to build a strong brand identity by having few USPs. This could be innovative features, superior quality, cost-effectiveness, and exceptional customer service, and making it suitable for Indian roads like having good ground clearance, also build a good charging station infrastructure.
- Introductory Offers like launch with special promotions, discounts, or financing deals to attract early adopters and provide various financing options, including low-interest rates, leasing options, or trade-in deals, to make purchases more accessible.
- Organize a launch event to generate buzz and introduce your cars to the public.
- Offer test drives to allow potential buyers to experience the cars firsthand and appreciate their quality and performance.
- Partner with reputable dealerships to expand your reach and provide customers with convenient access to EVs.
- Actively seek and respond to customer feedback to continuously improve your products and services.
- Invest in public relations like building relationships with automotive journalists and influencers who can review and promote your EVs
- Offer incentives for current customers to refer friends and family to your brand. This could be discounts, cash rewards, or other perks

Conclusion

Through this comprehensive analysis and recommendations, we are hoping that AtliQ Motors can successfully enter to Huge Indian Market and make their impact as one of the top automotive giants and compete greatly with other top brands where there are less number of foreign brands who are doing good in Electric Vehicle business

Thank you

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