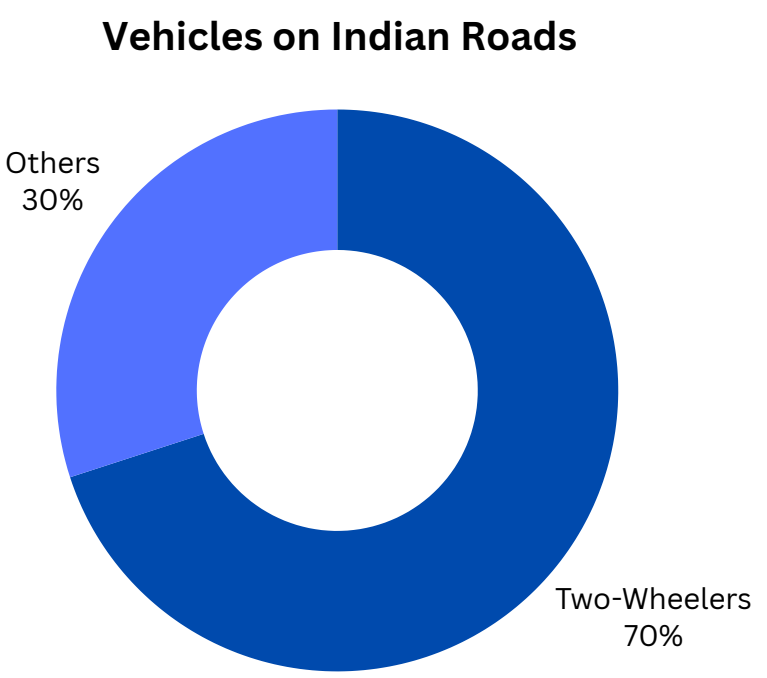
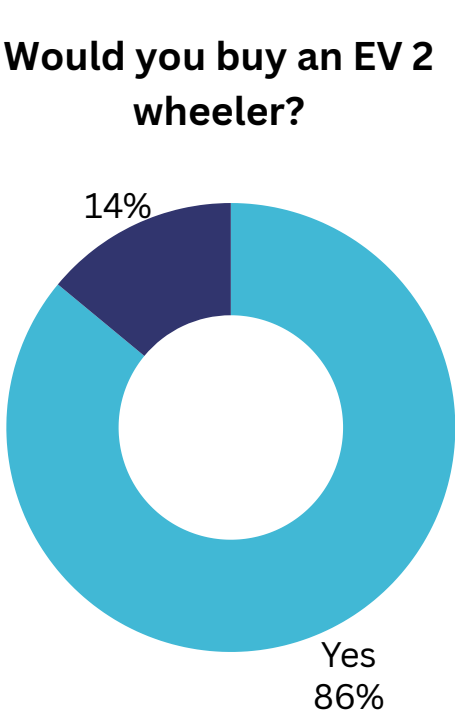
EV Two-Wheelers in India: A Market Entry Strategy Plan

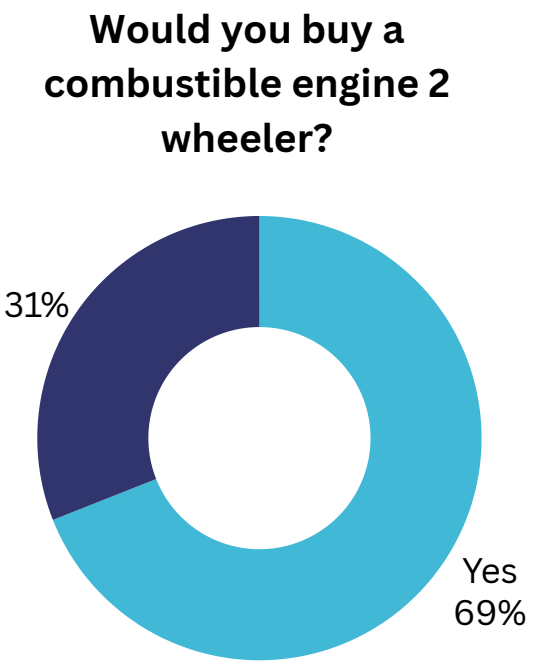
Market of Electronic Vehicles in India

Electric Vehicles (EVs) are the drivers of the future. And although the world is more attracted to electric cars, when it comes to India, electric two-wheelers (E2W) are the real deal.



According to the Economist, More than 70% of all vehicles on Indian roads are two-wheelers, chiefly scooters and motorcycles.

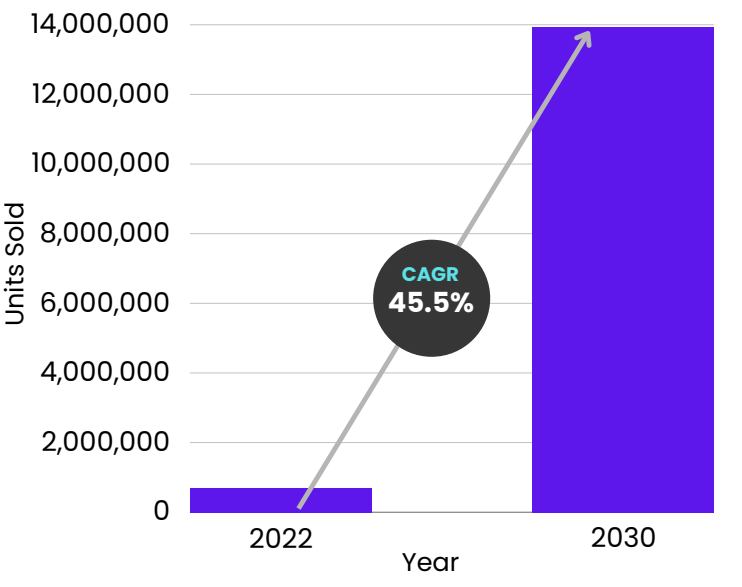




A McKinsey Report surveying 1200 EV consumers in India stated that 86 percent of consumers would consider buying an electric two-wheeler, while only 69 percent would consider a combustion engine vehicle.

India aims to be a **100% E-Vehicle nation by 2030.** India has shown time and again on global platforms such as COP28 that the country is committed to reach those goals. The **market for EV two-wheelers is expanding faster than ever** and shows promise for investment.

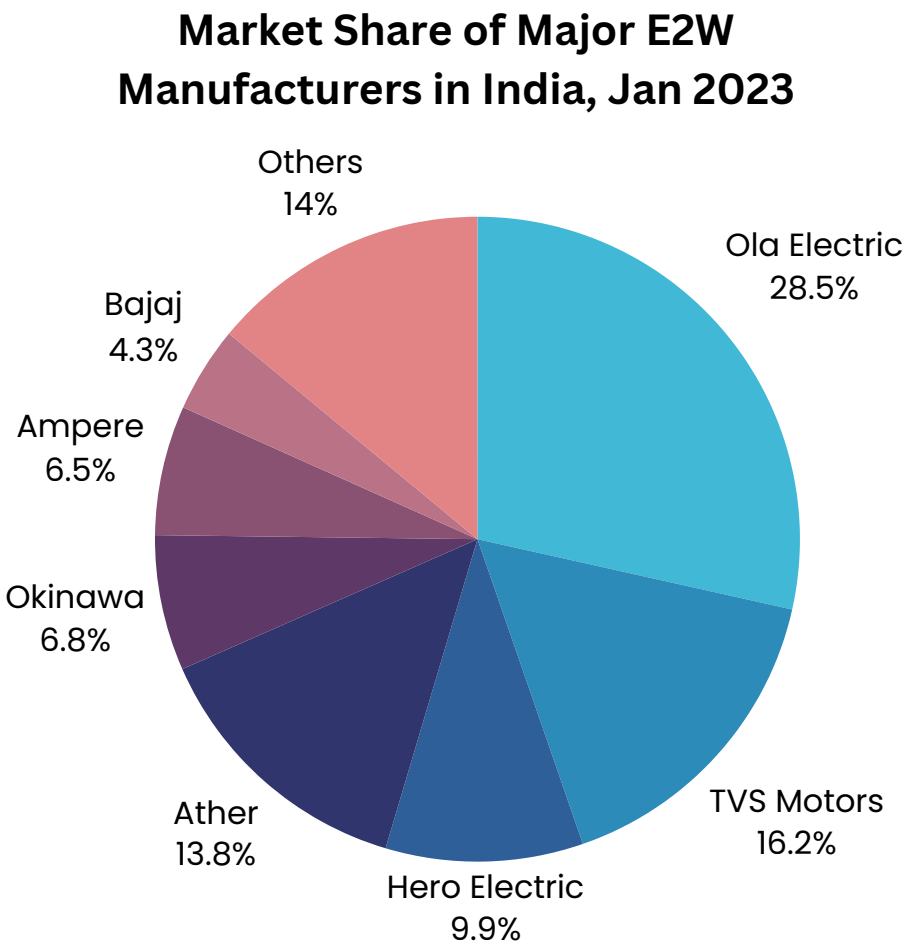
Environmental awareness, safety, and sustainability are at the forefront of Indian consumers' minds as they show a strong preference for EV two-wheelers as their next automobile to own. The EV-Ready India Dashboard, which is a free-to-use digital platform unveiled by the Indian government to track in real-time the EV adoption in India, has predicted an astounding 45.5% CAGR from 2022 to 2030, with sales increasing from 6.9 lakh units to 1.4 crore units in 2030.



Major EV two-wheeler Players in India

and their products and market shares

As of January 2023, Ola Electric is the leading producer of electric two-wheelers in India, with a substantial 28.5% market share. The trademark Ola Electric S1 series powers them to this position as a company focused on producing high-quality electric two-wheelers. Giants of the conventional ICE market, TVS Motors and Hero, are right in pursuit. The following scatter plot shows the market share of various companies by registrations received in VAHAN, the Indian nationanal register of E-Services.



Newer players such as Ather, Okinawa and Ola Electric, which are fully dedicated to electric scooters, have seen **better market share gains** compared to what could be expected from established ICE giants such as Hero and TVS.

Top Models of Major Players and How they Compare

COMPETITORS	RANGE	CHARGING TIME	TOP SPEED	0-40 KM/HR TIME	BOOT SPACE	PRICE
OLA S1 PRO	195 km (certified range) 180 km (eco mode) 143 (normal mode)	6.5 hrs	120 km/hr	2.6s	34L	₹1,47,499
ATHER 450X	150 km (certified range) 110 km (TrueRange)	(0%-80%) 4 hrs 30 mins	90 km/hr	3.3s	22L	₹1,44,921
TVS iQube ST	145 km (economy) 110 km (power)	(0%-80%) 4 hrs 6 mins at 950W	82 km/hr	4.2s	32L	₹1,25,000

All information sourced from the respective company's website

Similarly, the comparative study of the top models of these major players shows that **Ola is miles ahead** in providing the most best features. A major reason could be the investment of the new companies in **R&D**, where their **sole focus and entire money goes into manufacturing electric vehicles**. Hero and TVS, being still largely associated with building ICE products, have to focus on both fronts.

It is worthy to note, all these use **Lithium-Ion batteries** in some combination or the other. Ola claims that they have 224 Hypercharging Ports and 764 Standard Charging Ports all across India. Most of these bikes have built in **GPS systems** for easy navigation.

Challenges

to keep in mind before entering the market

MAJOR CHALLENGES

- **Upfront Cost and Potential for Profits:** The upfront investment to create an effective E2W with reasonable pricing and high end features is considerably high. An analysis of the existing models has already shown that investing in R&D will be crucial, which entails a significant financial investment. Moreover, while keeping the business profitable, the pricing has to appeal to the customers as it has to be considered that the price of ICE vehicles with similar features is still considerably lower than E2W vehicles, and considering the value-action gap, it can easily be the case that consumers don't prefer EVs as much as they said in the Mckinsey survey.

- **Charging Infrastructure:** The availability of a robust charging infrastructure is vital for the widespread adoption of electric vehicles. However, in India, the charging infrastructure is still relatively underdeveloped and limited. The scarcity of charging stations and the need for long charging times pose challenges for EV owners, leading to range anxiety and inconvenience. This is something to consider and keep in mind before entering the market, as insufficient charging infrastructure will hamper sales severely.

- **Facing Extremities:** India experiences extreme weather conditions, including hot summers and cold winters, which also vary depending on where one is in India. This can affect the performance and range of electric vehicles. High temperatures can lead to battery degradation and reduce the overall efficiency of EVs. Similarly, cold weather can impact the battery's performance and reduce its range. Developing electric vehicle technologies that can withstand and perform optimally under extreme weather conditions is crucial for their successful adoption in India.

- **Effect of regulations:** The reduction of the FAME (Faster Adoption and Manufacturing of Electric and Hybrid Vehicles in India) subsidy in the 2023 implemented FAME-II scheme has resulted in all the companies seeing a severe drop in sales according to VAHAN registrations. A June 2023 report saw a delay in the disbursement of PLI (Production Linked Incentive) which further hurt sales. These and upcoming regulations need to be thoroughly considered before entering the market.

- **Li-ion Batteries:** A major chunk of the Lithium-ion batteries used in electric vehicles is still imported from China, leading to a risk of disruption in supply chain in case ties between the two countries take a hit.

Strategy for the Client

an essential mix of good financial investments and clear direction

CHALLENGES	STRATEGIES
Upfront Cost	The client should be aware of the financial condition of the company, and only expand if there is sufficient initial capital to invest.
R&D	Analysis of the major companies in the E2W sector has clearly shown that an increase in R&D efforts is directly proportional to better sales. The client should consider investing in an R&D effort aimed solely at the electric vehicles sector to develop cost efficient, quality products.
Brand Image	The analysis of Hero and TVS Motors indicates that when it comes to the E2W sector, brand image developed from the ICE sales of the company may not have as much of an impact as a good product does. Still, the client should leverage the competitive advantage it has from its existing brand to promote the new products.
Resources	Resources for everything other than the engines should not be a problem as the client is experienced in building motorcycles. As for the engine, the R&D department must look into that well.
Batteries	The client should make strategic deals with trusted suppliers for sourcing batteries, as it is not feasible currently to develop it in-situ. Going for multiple trusted suppliers, especially from more than one country, is also a good option to minimize the effects of supply chain disruption.
Charging	The client may consider a tie-up with Ola to provide for charging ports across the country if the charging is made compatible. Otherwise, the client must consider options that reduce range anxiety for the customers and make charging easy and available.