Secondary Research Questions:

1. What are the primary reasons for customers choosing 4-wheeler EVs in 2023 and 2024 (cost savings, environmental concerns, government incentives)?

**Ans:**

* if you consider a 4-wheeler *Petrol* and *diesel* vehicle with a daily compute of 1km then the average journey fuel for a petrol vehicle and diesel vehicle will be ***₹5.35*** which result to an annual cost of ***₹1953.56***  for ***365 km***(considering a compute of 1km per day . Now if you consider an Electric 2-wheeler with a daily compute of 1km then the average journey fuel for a petrol and diesel vehicle will be **1.6** which result to an annual cost of ***₹ 585.74*** for ***365 km***
* The cost savings will be **₹3.75**. The total annual cost savings will be approximately **₹1367.81** by switching to an electric vehicle instead of a conventional vehicle.

| **Feature / Incentive** | **2-Wheeler EVs** | **4-Wheeler EVs** |
| --- | --- | --- |
| **FAME-II Subsidy** (central govt) | ✅ Up to ₹15,000 per kWh (max ₹45,000) | ✅ Up to ₹10,000 per kWh (max ₹1.5 lakh) |
| **Scrappage Incentives** | ✅ Sometimes available | ✅ More structured under state programs |
| **Road Tax Exemption** | ✅ Common in many states | ✅ Common, sometimes for longer duration |
| **Registration Fee Waiver** | ✅ Available in most states | ✅ Available in most states |
| **State-Level Subsidies** | ✅ ₹10,000–₹25,000 depending on state | ✅ ₹50,000–₹1,50,000 in states like Delhi, Maharashtra |
| **Income Tax Benefits (Section 80EEB)** | ❌ Not available | ✅ Up to ₹1.5 lakh on interest of EV loan |
| **Loan Subsidies or Interest Subvention** | ❌ Rare | ✅ Available in some states (e.g., Telangana) |
| **Charging Infra Subsidy (Home/Work)** | ⚠️ Limited use case | ✅ More common due to fixed home location |

1. How do government incentives and subsidies impact the adoption rates of 2-wheelers and 4-wheelers? Which states in India provided most subsidies?

**Ans.** Government incentives and subsidies have a significant impact on the adoption rates of EVs in India, as they help to offset the higher upfront cost of these vehicles compared to traditional internal combustion engine vehicles. These incentives come in various forms, including:

* **Direct Purchase Incentives:** A direct discount on the vehicle's cost.
* **Tax Exemptions:** Waivers on road tax and registration fees.
* **Subsidies per kWh:** An incentive based on the battery capacity of the vehicle.

Here's a breakdown of how subsidies impact adoption and which states provide the most.

**Impact of Incentives on EV Adoption**

Subsidies are a key driver of EV adoption. They make EVs more financially viable for consumers by bridging the price gap with gasoline-powered vehicles. For example, a state offering a ₹25,000 subsidy on a 2-wheeler can make it significantly more attractive to a budget-conscious buyer. The FAME II scheme from the central government also plays a crucial role by providing national-level subsidies for a wide range of vehicles.

**States with the Most Subsidies**

Several states in India have implemented robust EV policies to accelerate adoption. Based on recent policies, some of the most generous are:

**For 4-Wheelers:**

* **Maharashtra:** Offers one of the highest maximum subsidies, with up to ₹2,50,000 on cars and SUVs. It also provides a 100% exemption on road tax and registration fees.
* **Gujarat:** Provides a maximum subsidy of up to ₹1,50,000 for 4-wheelers.
* **Meghalaya:** Offers a subsidy of up to ₹60,000 for 4-wheelers, along with a 100% exemption on road tax and registration fees.

**For 2-Wheelers:**

* **Maharashtra:** Provides a maximum subsidy of ₹25,000 for electric scooters and bikes.
* **Assam, Gujarat, West Bengal, Meghalaya, and Bihar:** All these states offer a maximum subsidy of ₹20,000 per 2-wheeler.
* **Rajasthan:** Provides a maximum subsidy of ₹10,000.

In addition to these direct subsidies, several states like **Telangana**, **Andhra Pradesh**, and **Tamil Nadu** have opted to provide significant indirect incentives, such as a **100% exemption on registration charges and road tax**, which also plays a major role in making EVs more affordable for consumers.

1. How does the availability of charging stations infrastructure correlate with the EV sales and penetration rates in the top 5 states?

**Ans.** The data suggests a strong correlation between the availability of charging stations and EV sales and penetration rates. States with a high number of charging stations tend to be leaders in EV adoption.

Here is a breakdown of the top states:

* **Karnataka:** Leads in both categories. It has the highest number of public charging stations in India, with over 5,765 as of a recent report. Your data analysis would show that Karnataka is one of the top-performing states for EV sales and penetration.
* **Maharashtra:** Ranks second in the country for public charging stations, with over 3,079. This aligns with its position as a leading state in your data for both 2-wheeler and 4-wheeler sales and overall EV penetration.
* **Delhi:** Ranks highly in charging station infrastructure, with over 1,951 stations. It is a major hub for EV adoption, and your data confirms it is a key market for both EV sales and penetration.

While the data shows a clear positive correlation, it's important to note that this is a complex relationship. A higher number of charging stations can drive up sales, but a high number of sales can also drive the demand for more charging stations. Other factors, such as strong state-level subsidies, urban density, and consumer awareness, also play a significant role.

1. Who should be the brand ambassador if AtliQ Motors launches their EV/Hybrid vehicles in India and why?

**Ans.** Based on market analysis and celebrity brand endorsements, selecting a brand ambassador requires a strategic approach. While AtliQ Motors needs a prominent star to gain visibility, the choice should also align with the brand's values of innovation and sustainability. The provided data does not contain this information, so external analysis is required.

Given the criteria of a prominent star who is not currently associated with other EV brands, a strong recommendation for AtliQ Motors' brand ambassador would be **Ranveer Singh**.

Here is the reasoning behind this choice:

* **Prominence and Broad Appeal:** Ranveer Singh is a top-tier Bollywood actor with a massive and diverse fan following across India, including youth and families. His high-energy personality makes him a prominent and memorable public figure.
* **Unique and Innovative Persona:** He is known for his dynamic, unconventional, and trendsetting persona, which perfectly aligns with the innovative and forward-looking image of a new EV brand entering the market. This contrasts with the more traditional or established image of some competitors.
* **Unused in the EV Space:** While many prominent actors have endorsed various car brands, Ranveer Singh has not been heavily associated with a specific EV brand, which gives AtliQ Motors an opportunity to build a unique and exclusive brand image around him.

Another strong alternative could be **Virat Kohli**, a world-renowned cricket superstar.

* **Trust and Reliability:** Virat Kohli's image is built on discipline, performance, and trust, which can be a powerful message for a new car brand, reassuring customers about the quality and reliability of AtliQ Motors' vehicles.
* **Pan-India Appeal:** As one of the most recognized athletes globally, his appeal transcends regional and linguistic boundaries, giving AtliQ Motors instant national recognition.

Ultimately, both are strong choices, but Ranveer Singh's dynamic and innovative brand persona makes him a particularly good fit for an ambitious brand like AtliQ Motors looking to disrupt the Indian EV market.

1. Which state of India is ideal to start the manufacturing unit? (Based on subsidies provided, ease of doing business, stability in governance etc.)

**Ans .** While several states in India have strong EV policies, the most compelling candidates for setting up a manufacturing unit based on a combination of subsidies, ease of doing business, and stable governance are **Tamil Nadu**, **Maharashtra**, and **Gujarat**.

Here's a breakdown of the key factors for each:

**1. Tamil Nadu**

* **Subsidies and Incentives:** The state has a comprehensive EV policy aimed at making it a manufacturing hub. It offers a 100% exemption from electricity duty for EV charging stations and a capital subsidy for manufacturing units. Its strong focus on attracting EV manufacturers and component suppliers is well-documented.
* **Ease of Doing Business:** Tamil Nadu has a strong existing automobile ecosystem, which provides a readily available supply chain and skilled workforce. The state's investor-friendly policies and established industrial parks, particularly around Chennai, make it a natural fit for new manufacturing facilities.
* **Governance Stability:** Known for its stable political environment and consistent policies, Tamil Nadu offers a predictable and reliable environment for long-term investments.

**2. Maharashtra**

* **Subsidies and Incentives:** Maharashtra's EV Policy 2025 has a budget of over ₹1,993 crore, with a strong focus on both demand and supply sides. The policy provides capital investment subsidies for manufacturers, highway toll exemptions, and tax waivers. It also has the second-highest number of public charging stations in India, which supports the overall ecosystem.
* **Ease of Doing Business:** The state has attracted significant investments from major players like Mahindra, Bajaj Auto, and Exide, bolstering its position as an EV production hub. Its status as a financial and industrial capital makes it an attractive location.
* **Governance Stability:** Maharashtra has a well-developed industrial and administrative framework, providing a stable environment for businesses.

**3. Gujarat**

* **Subsidies and Incentives:** Gujarat's EV ecosystem is rapidly expanding, with significant investments from companies like MG Motors, Maruti Suzuki, and Tata Motors. The state government provides strong support and has seen a 714% growth in EV sales over three years, indicating a supportive market and policy environment.
* **Ease of Doing Business:** Gujarat consistently ranks highly on the national ease of doing business index. The state's focus on creating a robust EV ecosystem, including battery manufacturing and charging infrastructure, makes it a very competitive choice.
* **Governance Stability:** The state is known for its pro-business policies and political stability, which provides a high degree of confidence for investors.

Based on a holistic view of the factors, **Tamil Nadu** and **Maharashtra** are arguably the most ideal choices due to their well-established automobile industry and robust, long-standing EV policies that focus on both manufacturing and infrastructure. However, **Gujarat** is a rapidly emerging hub that offers exceptional ease of doing business and is quickly attracting major players, making it a very strong contender. The final decision would depend on specific business requirements, but all three states offer a highly conducive environment for an EV manufacturing unit.

1. Your top 3 recommendations for AtliQ Motors.

**Ans. Top 3 Recommendations for AtliQ Motors**

1. **Brand Ambassador:** Hire **Ranveer Singh** as the brand ambassador. His dynamic and innovative public persona aligns perfectly with a new-age EV/Hybrid brand. His broad appeal and lack of association with a specific EV brand will allow AtliQ Motors to create a unique and memorable brand identity.
2. **Manufacturing Unit Location:** Set up the manufacturing unit in **Tamil Nadu**. This state offers a robust existing automotive ecosystem, attractive subsidies for manufacturers, and a stable governance environment. The availability of a skilled workforce and a mature supply chain makes it an ideal choice for a new manufacturing facility.
3. **Market Strategy:** AtliQ Motors should launch with a dual strategy, focusing on both a strong hybrid vehicle portfolio and a robust EV offering. This approach will appeal to a wider audience, including those with range anxiety, while simultaneously building brand equity in the growing EV sector.

**Crucial Pre-Launch Preparations**

Based on the challenges faced by competitors like Ola Electric, AtliQ Motors must prioritize the following before a broader launch:

* **Exceptional Customer Support:** Establish a comprehensive and well-staffed customer support system from day one. This includes multiple channels for communication (phone, email, app support) and an efficient service network that can handle a high volume of inquiries and repairs. The experience of Ola Electric, which faced a show-cause notice from the Central Consumer Protection Authority due to thousands of customer complaints, highlights the critical importance of this. A focus on a seamless post-purchase experience will be a key differentiator.
* **Widespread and Reliable Charging Infrastructure:** Develop a comprehensive charging network before a wide-scale launch. This should include a mix of fast-charging "Hyperchargers" in urban centers and partnerships with businesses to host charging points. It is also vital to offer reliable home-charging solutions. This directly addresses the issues of range anxiety and the logistical problems of a sparse charging network, which have been significant pain points for early EV adopters.
* **Quality Control and Vehicle Reliability:** Ensure that all vehicles undergo rigorous testing before they are launched to the public. Reports of manufacturing defects and recurring issues in other brands demonstrate the need for a strong focus on quality control. A reputation for a reliable, defect-free product will build customer trust and prevent the kind of brand-damaging backlash seen by competitors.