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# A Study on Consumer buying Behavior for E.V. Cars in India

Adarsh Modi, Dr. Rekha Khosla

MBA Student, Amity University, Lucknow, India

Assistant Professor, Amity University, Lucknow, India

**ABSTRACT:** As the global automotive industry transitions towards sustainability, the adoption of electric vehicles (EVs) has gained significant traction, especially in countries like India grappling with environmental concerns and energy security. This study delves into the complex landscape of consumer buying behaviour for EVs in the Indian market. Employing a mixed-method approach, incorporating quantitative surveys and qualitative interviews, the research aims to elucidate the key drivers and barriers influencing consumers' decisions regarding EV adoption. Factors such as cost considerations, charging infrastructure availability, government incentives, environmental consciousness, and technological advancements will be analysed to provide a holistic understanding of the dynamics shaping consumer preferences towards EVs. The findings of this study will offer valuable insights to policymakers, automobile manufacturers, and other stakeholders to formulate strategies that promote the widespread adoption of EVs in India, thereby contributing to a cleaner and sustainable future.

## KEYWORDS:

- Consumer buying behavior.
- Electric Vehicles (EVs)
- Market segmentation
- Strategic recommendations

## I. INTRODUCTION

In recent years, the automotive industry has witnessed a significant shift towards sustainable transportation solutions, prominently marked by the rise of Electric Vehicles (EVs). India, as one of the world's fastest-growing economies and a major contributor to global carbon emissions, is facing pressing challenges regarding environmental sustainability and energy security. In this context, the adoption of EVs presents a promising avenue towards mitigating pollution levels and reducing dependency on fossil fuels.

Understanding consumer buying behaviour is crucial for the successful penetration and acceptance of EVs in the Indian market. Unlike traditional internal combustion engine vehicles, EVs present a paradigm shift in terms of technology, infrastructure, and consumer mindset. Factors influencing consumer decisions in purchasing EVs are multifaceted, ranging from environmental concerns and cost considerations to infrastructure availability and technological advancements.

This study aims to provide valuable insights into the complexities of consumer behaviour towards EVs in India. The findings will not only contribute to academia but also offer practical implications for policymakers, industry stakeholders, and marketers seeking to accelerate the transition towards sustainable mobility solutions. Ultimately, fostering a conducive environment for EV adoption is imperative for India's journey towards a cleaner, greener, and more sustainable future.

## II. LITERATURE REVIEW

The Indian car market is seeing a continuous yet observable shift towards electric vehicles because of worries over natural maintainability, rising fuel costs, and government drives advancing clean energy. Understanding shopper purchasing conduct towards EVs is pivotal for partners to devise successful advertising systems and strategy mediations.



Despite the developing interest in EVs, a few difficulties continue that obstruct broad reception. These incorporate worries over battery range, restricted charging infrastructure, and concerns about vehicle execution and resale value.

The car business in India is seeing a huge shift towards electric vehicles (EVs) because of different factors like natural resources, government incentives, and technological progressions.

This writing survey means to investigate existing examination on purchase towards EVs in India, recognize key elements affecting their purchase choices, and identify gaps for further research. Various factors - including the job of natural resources in affecting customers' choices to buy EV vehicles, government strategies and motivations, including incentives, tax cuts, and motivators for EV purchasers, significantly affect buying behavior.

Nonetheless, irregularities in strategy execution, absence of mindfulness about impetuses and vulnerabilities regarding future arrangements present difficulties too far and wide to EV reception.

### III. OBJECTIVE

- To investigate the primary factors influencing consumer decision-making processes when considering the purchase of electric vehicles (EVs) in India.
- To analyse the factors such as cost, charging infrastructure, government incentives, and environmental concerns.
- To examine the role of marketing strategies and awareness campaigns in shaping consumer perceptions and attitudes towards EVs in the Indian market.
- To identify key barriers hindering the widespread adoption of EVs in India, including range anxiety, perceived lack of vehicle options, and concerns about battery life and durability, and propose potential solutions to overcome these obstacles.

### IV. RESEARCH METHODOLOGY

#### Methodology

Data was collected from a sample of 60 respondents, in which 70% of respondent was male and rest 30% of respondent was female. The responses were also collected on basis of different age group.

The participants were asked about that they own a car or not. They were also asked about that have they ever been used an electric vehicle before.

#### Questionnaire

A structured questionnaire was created to gather information from different participants on basis of a participants based on their objectives. The data was collected from both qualitative and quantitative which may include a multiple-choice question on basis of questionnaire required.

#### Data Collection

The questionnaire was probably given to the chosen participants via a variety of ways, including online questionnaires, emails inviting them, or in-person interviews. To find possible volunteers, the researchers could have additionally made use of professional networks or social media sites.

### V. DATA ANALYSIS AND INTERPRETATION

#### GENDER

The pie chart displays the gender distribution of 60 respondents. The largest segment comprises 70% is from male. The second largest segment comprising 30% is from females.

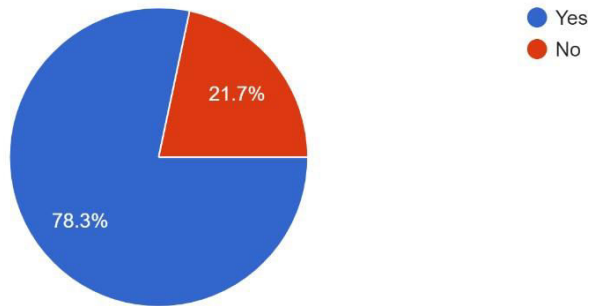


**AGE**

The pie chart shows distribution of responses from different age groups. 50% of the responses were collected from an age group 18-25, 36.7% of the responses were collected from an age group 26-35, 10% of the responses were collected from an age group 36-45 and at least responses were collected from an age group between 46-55.

Do you currently own a car?

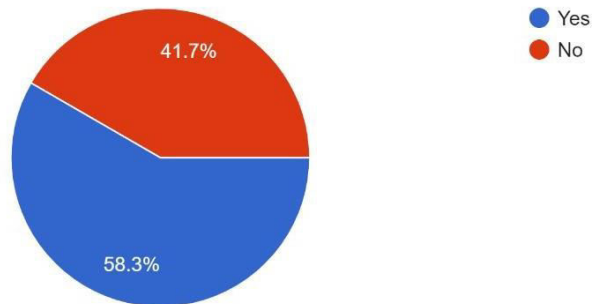
60 responses



**Explanation-** In the above pie chart it tells that 78.3% of the respondents currently have a car.

Have you ever driven or ridden in an electric vehicle (EV) before?

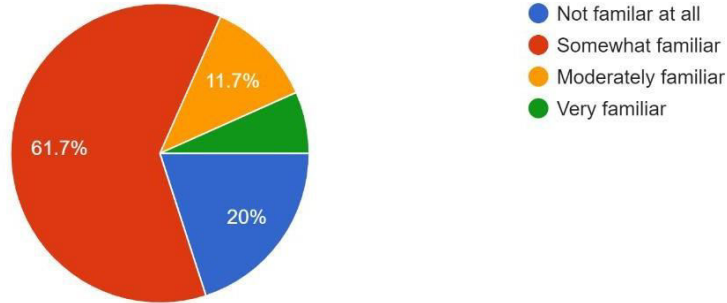
60 responses



**Explanation-** In the above pie chart it tells that 58.3% of the respondents have driven an electric vehicle before.

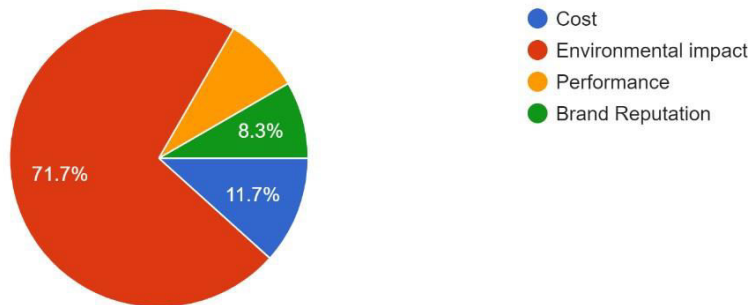


How familiar are you with electric vehicles (EVs)?  
60 responses



**Explanation-** In the above pie chart, it says 61.7% somewhat respondents are familiar with electric vehicles.

What factors influence your decision when purchasing a car?  
60 responses



**Explanation-** In the above pie chart, it says that 71.7% of the respondents will influence on an environmental impact while purchasing a car.

## VI. FINDINGS

- **Awareness and Knowledge:** Many consumers in India are still not fully aware of EVs or lack sufficient knowledge about their benefits, such as lower operating costs, reduced environmental impact, and government incentives.
- **Perceived Benefits:** Consumers who are aware of EVs often perceive benefits such as lower fuel costs, reduced emissions, and government subsidies as attractive factors influencing their buying decisions.
- **Concerns about Range Anxiety:** One of the significant barriers to EV adoption in India is range anxiety, which refers to the fear of running out of battery charge before reaching a charging station. Consumers worry about the limited driving range of EVs and the availability of charging infrastructure, especially in rural areas.
- **Charging Infrastructure:** The availability and accessibility of charging infrastructure play a crucial role in consumers' willingness to adopt EVs. Many consumers are hesitant to switch to EVs due to concerns about the availability of charging stations, especially during long journeys.
- **Cost Considerations:** The upfront cost of EVs remains a significant barrier for many consumers in India. Although EVs have lower operating costs compared to traditional vehicles the initial purchase price is often higher, which deters price-sensitive consumers.



## **VII. CONCLUSION**

The investigation of shopper purchasing conduct for electric vehicles (EVs) in India uncovers a few key experiences that can illuminate producers, policymakers, and advertisers in melding procedures to advance EV reception.

First and foremost, there is a developing interest in EVs among Indian buyers, driven by worries over air contamination, rising fuel costs, and a longing for manageable transportation arrangements. In any case, a few boundaries frustrate far reaching reception, including high forthright expenses, restricted charging foundation, range uneasiness, and an absence of mindfulness about EV innovation and advantages.

Besides, shopper inclinations for EVs are impacted by various variables, including cost, range, execution, brand notoriety, government impetuses, and natural worries. Understanding these inclinations is vital for makers to foster items that address customer issues and assumptions.

Thirdly, the review features the significance of government backing and motivating forces in speeding up EV reception. Strategies, for example, endowments, tax reductions, and interest in charging framework can assist with lessening the expense hindrance and address range tension, accordingly, reassuring more buyers to change to EVs.

All in all, while there are difficulties to survive, the eventual fate of EVs in India looks encouraging. By addressing boundaries to reception, utilizing purchaser inclinations, and executing strong arrangements and promoting procedures, the nation can prepare for a reasonable and jolted transportation future.

## **REFERENCES**

1. Kumar, A., & Jain, V. (2020). "Understanding the consumer behaviour towards electric vehicles: A case of India." *International Journal of Energy Sector Management*, 14(2), 438-458.
2. Sharma, R., & Devabhaktuni, V. (2019). "Consumer Attitudes and Perceptions Towards Electric Vehicles in India: A Study of Delhi-NCR Region." *International Journal of Sustainable Transportation*, 13(8), 547-558.
3. Tiwari, G., & Kala, P. (2020). "Consumer Preferences and Perceptions towards Electric Vehicles: A Study from India." *Journal of Asian Finance, Economics, and Business*, 7(6), 75-84.
4. Agarwal, R., & Thampi, B. V. (2018). "An analysis of consumer preferences towards electric vehicles: A case study in Indian context." *International Journal of Energy Economics and Policy*, 8(3), 104-112.
5. Singh, S., & Sharma, S. (2018). "Factors affecting consumer preferences towards electric vehicles in India: A case study of Delhi-NCR." *International Journal of Energy Economics and Policy*, 8(6), 195-201.



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