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Factors Affecting Electronic Vehicle Purchase among Indians in Tier 2 Cities

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ABSTRACT

This study explores factors influencing electric vehicle (EV) adoption in Tier 2 cities in India, aiming to address a gap in current literature. It combines quantitative surveys and qualitative interviews to analyze determinants affecting EV purchase intentions, revealing a complex interplay of economic, policy, infrastructure, technological, and social factors. Key findings underscore the significance of government subsidies, affordability, and consumer perceptions. The study's implications extend to policymakers, urban planners, automotive industry stakeholders, and marketers, emphasizing evidence-based strategies to promote EV adoption and contribute to environmental sustainability and societal well-being in Tier 2 cities of India.

Introduction

This comprehensive study delves into various aspects of electric vehicles (EVs), including their types, attributes, market trends, and factors influencing their adoption in Tier 2 cities of India. The objectives range from analyzing market status to assessing the impact of government policies and identifying technological advancements. The study also addresses challenges hindering EV adoption and proposes strategies to overcome them. It emphasizes the significance of EVs in combating pollution and promoting economic efficiency. The report follows a structured approach and aims to inform decision-making processes, policy formulation, and investment strategies in the realm of sustainable transportation. Additionally, it explores the influence of cultural factors on consumer behavior in digital markets, seeking to provide businesses with actionable recommendations for effective consumer engagement in a globalized world.

Literature Review

Multiple studies highlight the challenges and opportunities in India's electric vehicle (EV) market. They emphasize barriers to EV adoption, including psychological factors, infrastructure gaps, and regulatory complexities. Despite government initiatives like the FAME scheme, challenges such as range anxiety and high upfront costs persist. The dynamic interplay of regulatory frameworks, industry competition, and consumer behavior adds complexity to the EV ecosystem. Addressing these challenges requires a holistic approach integrating policy reforms, infrastructure development, and public awareness campaigns to accelerate India's transition towards sustainable electric mobility.

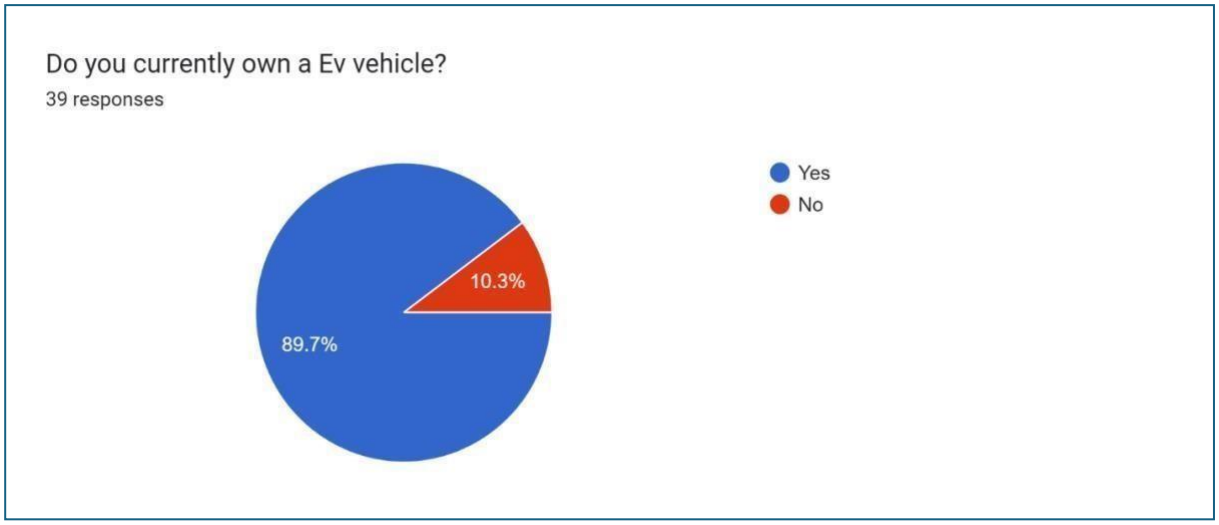
Research Methodology

The research methodology involves collecting primary data through surveys, interviews, and focus group discussions, supplemented by secondary data analysis from various sources. Market analysis includes evaluating the competitive landscape, regulatory environment, and consumer behavior. Policy evaluation assesses government initiatives' impact on market dynamics and consumer adoption. However, limitations include sample size constraints, scope limitations, resource constraints, and data availability and quality issues, which may affect the study's accuracy and validity.

1. **Data Collection:** Collect primary data through surveys, interviews, and focus group discussions with key stakeholders in the EV ecosystem. Design questionnaires and interview guides to gather insights into market dynamics, policy impacts, consumer preferences, and industry challenges.
2. **Secondary Data Analysis**: Analyze secondary data sources such as market research reports, industry databases, government statistics, and news articles to supplement primary research findings. Use data analysis tools and techniques to extract relevant information and validate research findings.
3. **Market Analysis**: Conduct a detailed analysis of the Indian EV market, including market size, growth trends, competitive landscape, regulatory environment, technological innovations, and consumer behavior. Segment the market based on vehicle type, market segment, geographic region, and other relevant factors.

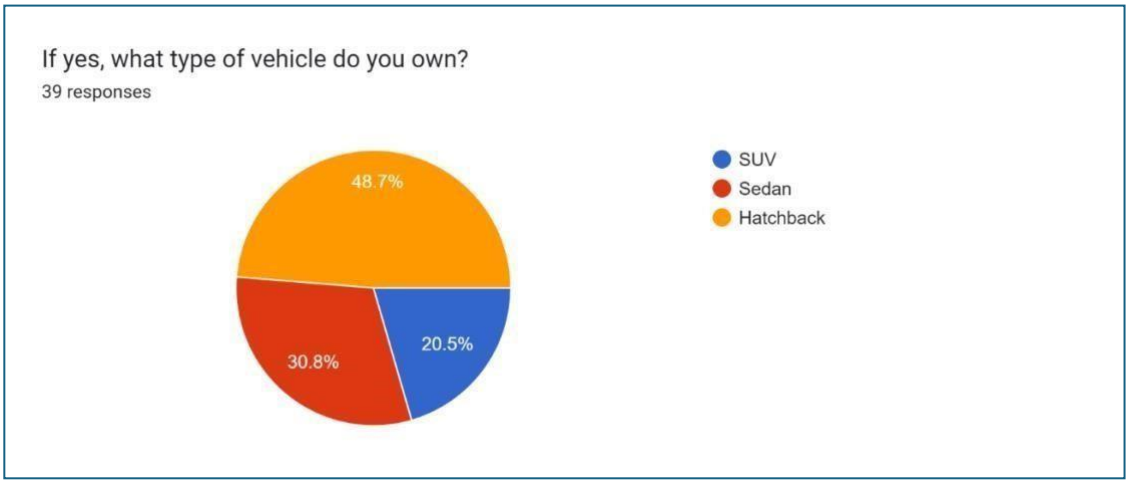
4. **Policy Evaluation**: Evaluate government policies, regulations, incentives, and initiatives aimed at promoting electric vehicles in India. Assess the impact of policies such as the FAME scheme, subsidies, tax incentives, and infrastructure investments on market dynamics, industry competitiveness, and consumer adoption.
5. **Consumer Behavior Analysis**: Investigate consumer perceptions, preferences, and behavior towards electric vehicles in India. Explore factors influencing purchase decisions, including pricing, performance, range, charging infrastructure availability, brand reputation, and environmental considerations.

DATA ANALYSIS



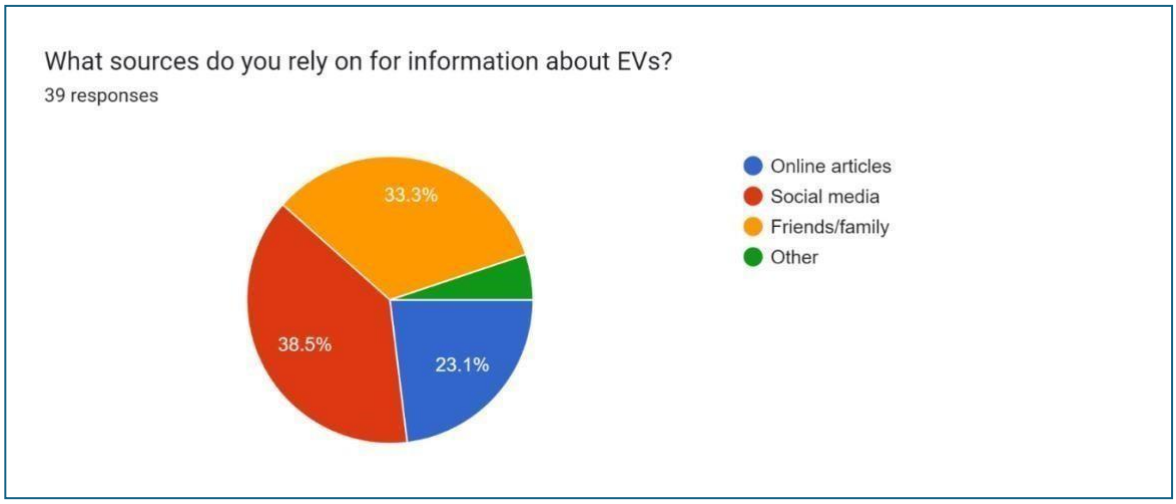
FINDING FROM QUESTION 1

The finding from the first question is that out 39 responses around 90 percent people are owning electronic vehicles and 10 percent do not have electronic vehicles



FINDING FROM QUESTION 2

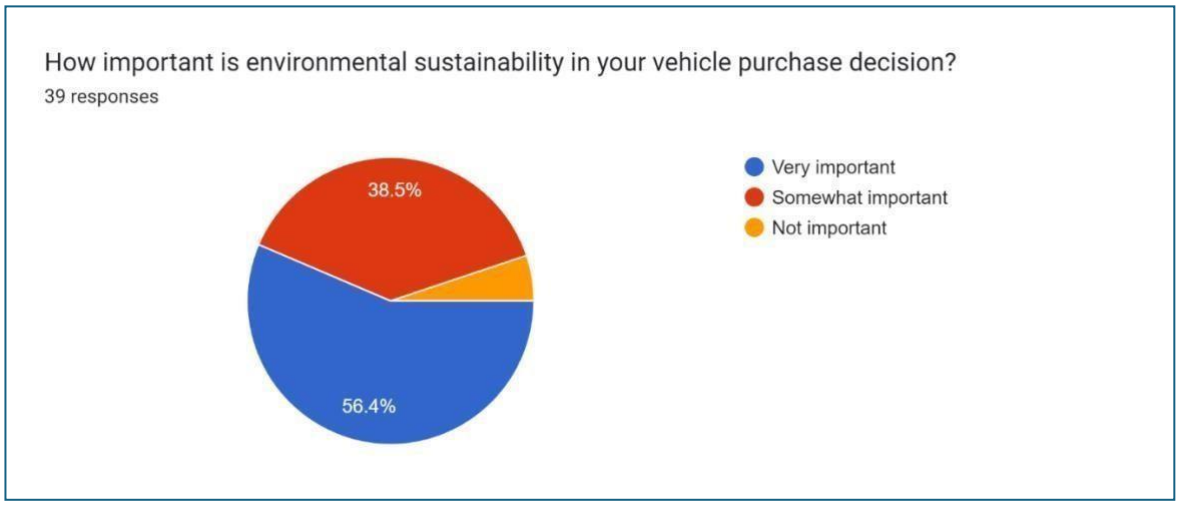
The finding from question 2 is that out 35 people who own electronic vehicles 48.7 percent people have hatchbacks and 30.8 percent people have sedan and 20.5 percent people have SUV as an electronics vehicles.



FINDING FROM QUESTION 3

The Finding from question 3 is that maximum number of people rely on information about Evs vehicles while buying is from 38.5 percent through social media then 33.3 percent through friends and family, 23.1 percent through online articles and rest from other sources available.

The finding from question 4 is that while buying electronic vehicles 56.4 percent people considered environment sustainability very important then 38.5 percent people considered environment somewhat important and rest does not consider as important.



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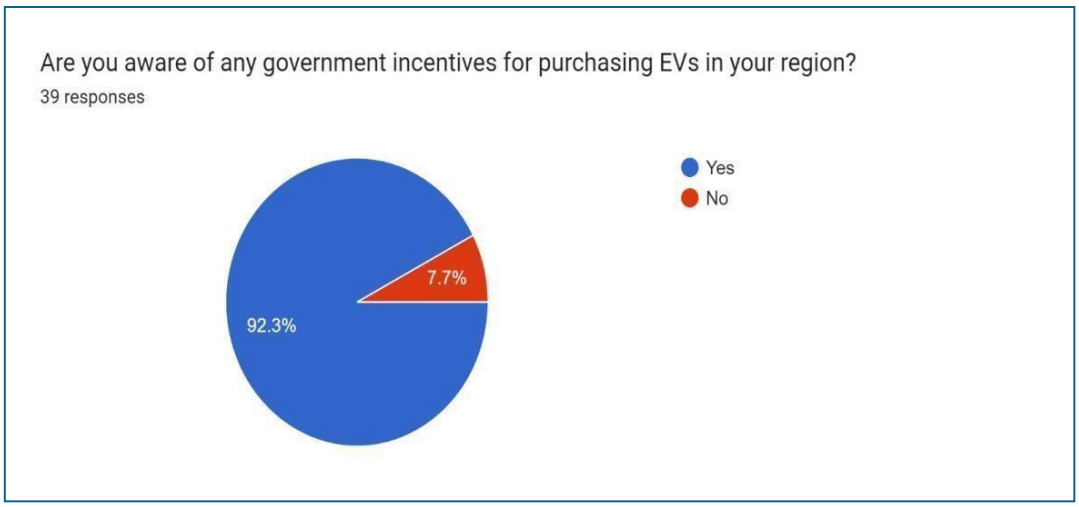
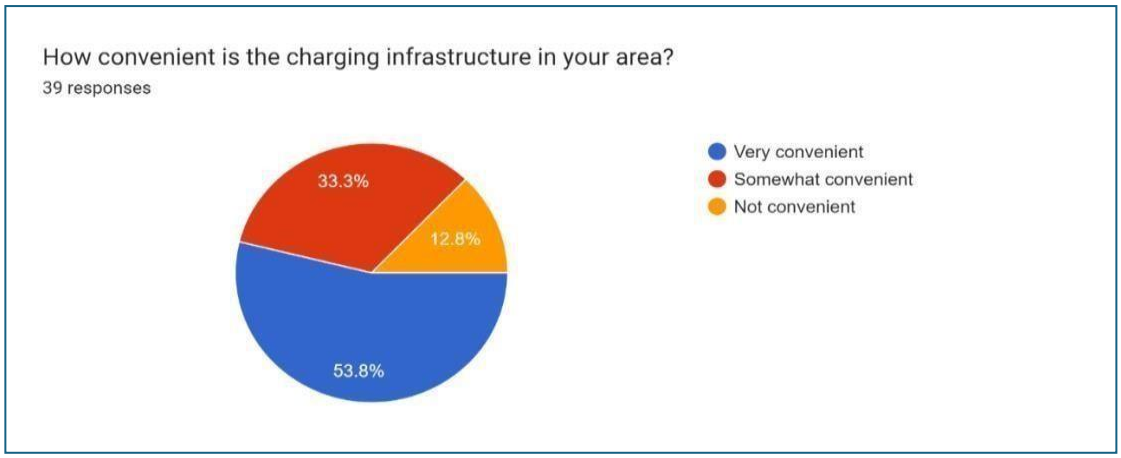


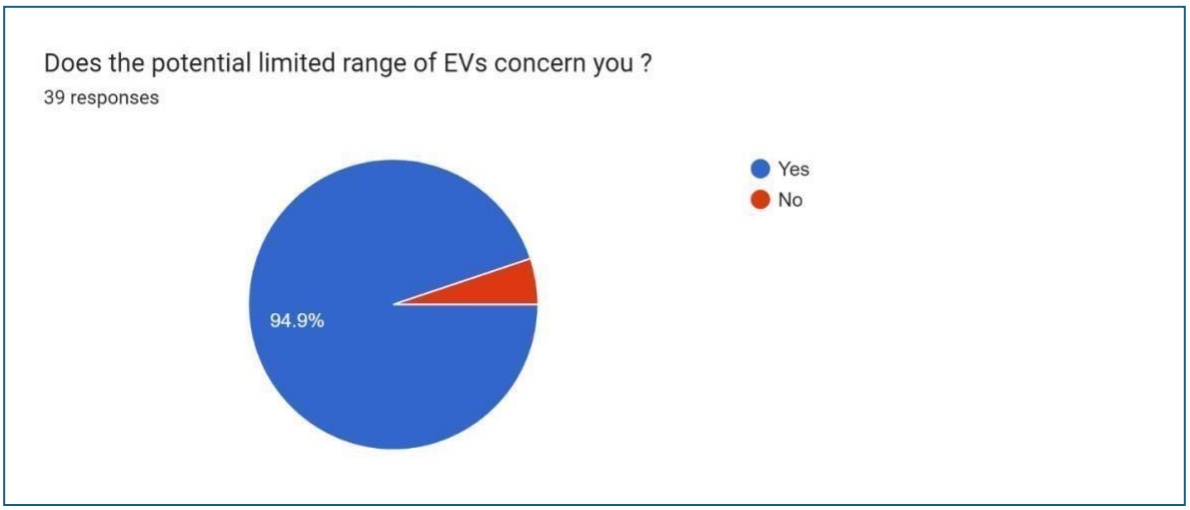
FINDING FROM QUESTION 5

The finding from question 5 is that 92.3 percent people are aware of government incentives when they buy electronic vehicles and 7.7 percent were not aware about any government incentives.

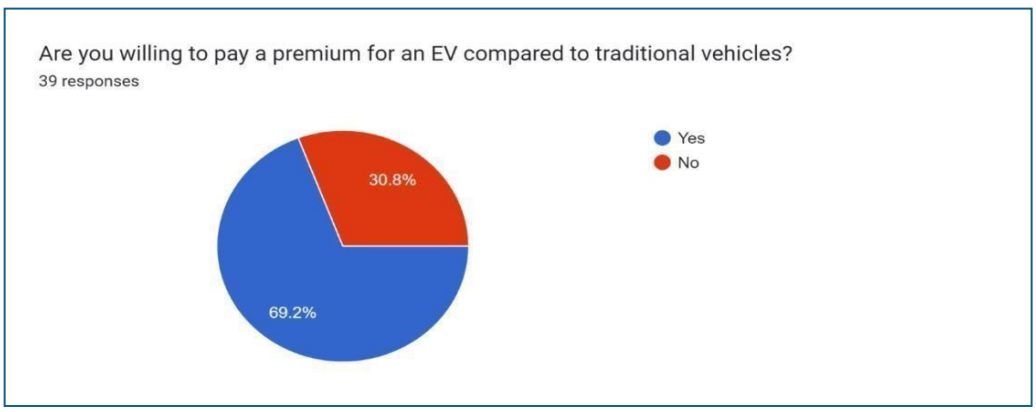


FINDING FROM QUESTION 6

The finding from question 6 is that 53.8 percent people have convenient charging infrastructure in their area, 33.3 percent have somewhat convenient charging infrastructure in their area and

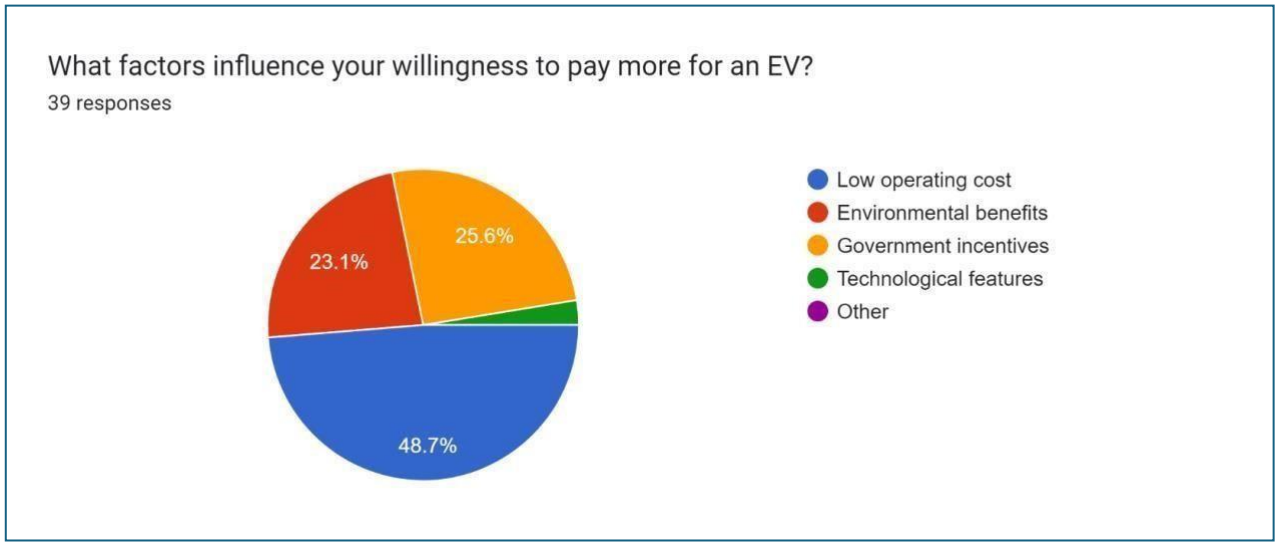


FINDING FROM QUESTION 7



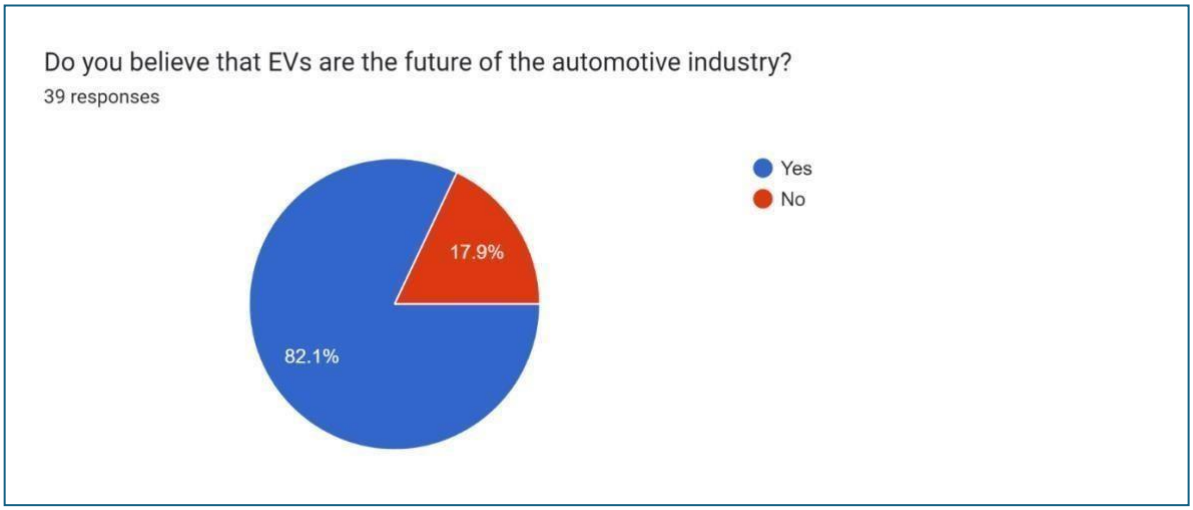
FINDING FROM QUESTION 8

The finding from question 8 is that 69.2 person people are willing to pay a premium for an EV compared to electronic vehicles and 30.8 percent are not willing to pay premium for electronic vehicles.



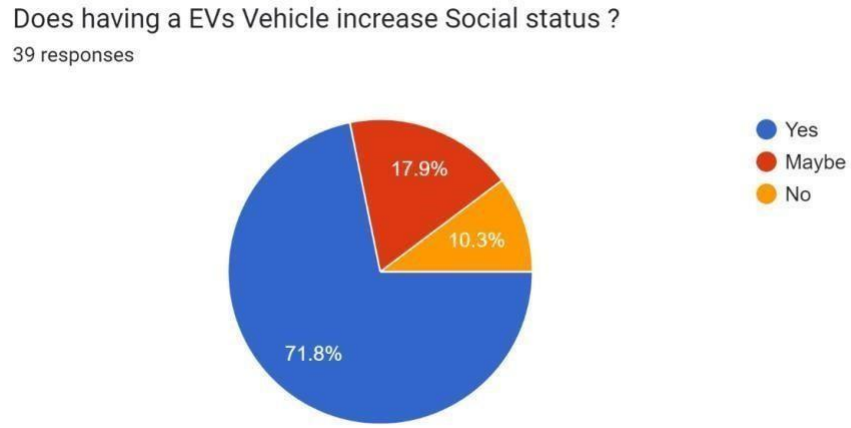
FINDING FROM QUESTION 9

The finding from question 9 is that 48.7 percent people get influence to pay for more for an Evs because of low operating cost, 25.6 percent people can pay more for Evs because of government incentives and 23.1 percent people can pay more because of enviourmental benefits.



FINDING FROM QUESTION 10

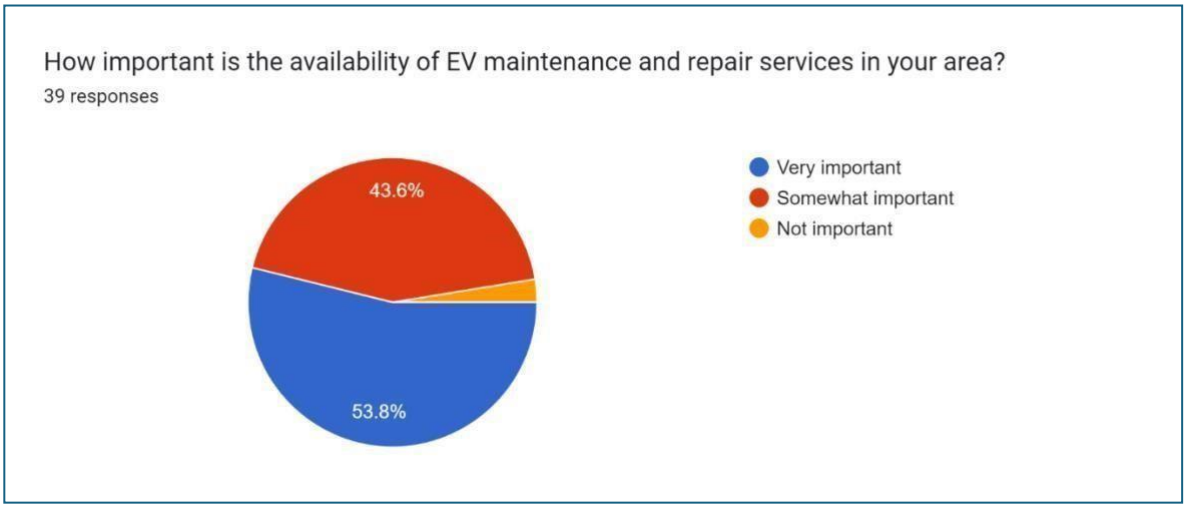
The finding from question 10 is that 82.1 percent people considered Evs are the future of automotive industry and 17.9 percent people don't consider Evs as future of electronic vehicles.



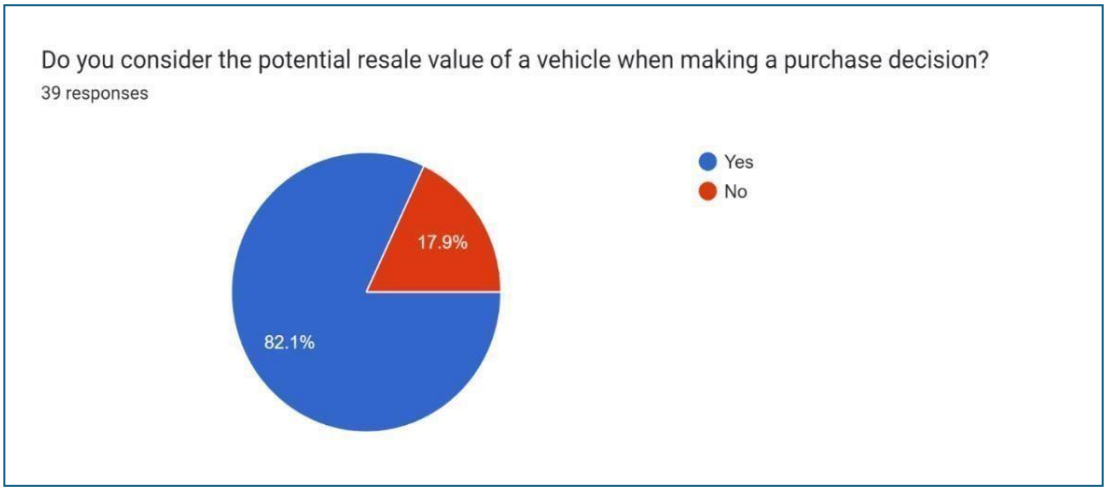
FINDING FROM QUESTION 11

The finding from question 11 is that 71.8 percent people consider that having electronic vehicles increase their social status, 17.9 percent people consider that having electronic vehicles maybe increase their social status and 10.3 consider that it does not increase their social status.

The finding from question 12 is that 53.8 percent consider that availability of Ev maintenance and repair very important and 43.6 percent consider that it is somewhat importance.



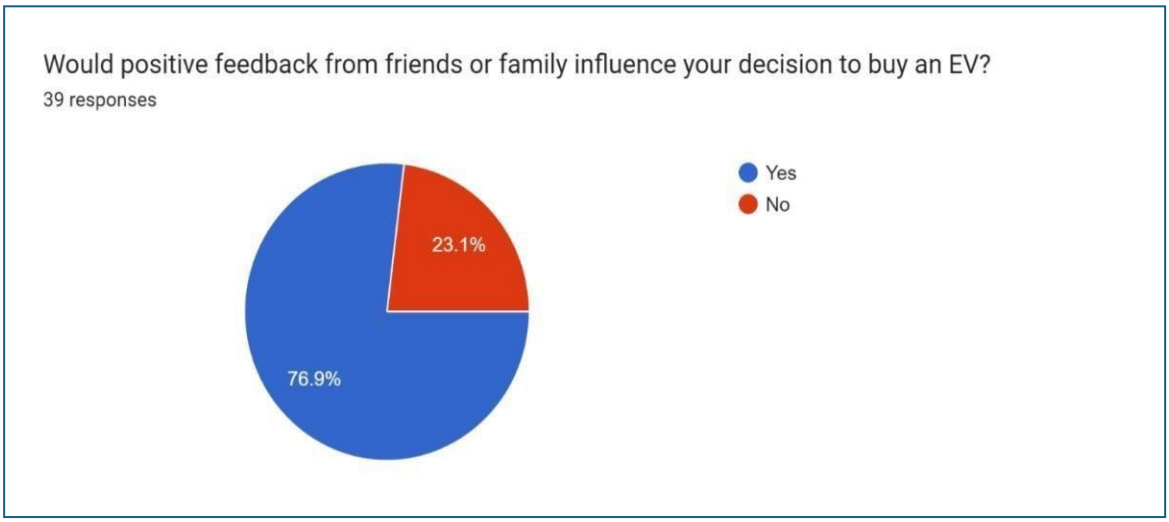
FINDING FROM QUESTION 12



FINDING FROM QUESTION 13

The finding from question 13 is that 82.1 percent consider the potential resale value of electronic vehicles while purchasing and 17.9 don't consider resale value while buying electronic vehicles.

The finding from question 14 is that 76.9 percent people get influence from family and friends when they purchase Evs vehicles and 23.1 percent people don't get influence while purchasing of
Evs.



FINDING FROM QUESTION 14

CONCLUSION

In conclusion, the decision to adopt electric vehicles (EVs) in Tier 2 cities in India is influenced by multiple factors including infrastructure, government policies, consumer awareness, and subsidies. Challenges like range anxiety and initial costs persist, but environmental sustainability and long-term cost savings are driving forces. Stakeholder efforts are crucial to overcome barriers and accelerate the transition towards a greener future. The study reveals insights into the various factors shaping consumer behavior and market dynamics. Government policies play a significant role in stimulating EV adoption, but their effectiveness depends on alignment with consumer needs and economic conditions. Economic considerations, charging infrastructure availability, technological advancements, and socio-cultural factors all impact EV adoption. Strategies to enhance affordability, improve charging infrastructure, and leverage social influences are essential for promoting EV adoption in Tier 2 cities.

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