

A STUDY ON CUSTOMER PERCEPTION AND SATISFACTION TOWARDS ELECTRIC VEHICLES WITH SPECIAL REFERENCE TO COIMBATORE CITY

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Abstract:

This study investigates customer perception and satisfaction towards electric vehicles (EVs) in Coimbatore city, aiming to understand the factors influencing EV adoption. With growing environmental concerns and government incentives, the shift towards EVs is gaining momentum. The research highlights that while customers are motivated by the environmental benefits and long-term cost savings of EVs, concerns about high upfront costs, limited charging infrastructure, and range anxiety are barriers to adoption. Customer satisfaction is found to be positively impacted by factors such as vehicle performance, after-sales service, and government incentives. The study emphasizes the need for improved charging infrastructure, better awareness campaigns, and stronger policy support to enhance the adoption of electric vehicles in Coimbatore and meet customer expectations.

Keywords: e-vehicles, Customers satisfaction.

INTRODUCTION

The automotive industry is undergoing a significant transformation with the increasing adoption of electric vehicles (EVs), driven by concerns about environmental sustainability, fuel efficiency, and the need for reduced carbon emissions. The growing shift towards electric vehicles (EVs) is not just a global phenomenon, but also a significant trend in India, particularly in urban centers like Coimbatore.

Coimbatore, known for its industrial and technological advancements, is experiencing a gradual yet promising transformation in its automotive sector, with more consumers considering electric vehicles as a viable option for personal and commercial use. This study aims to provide a comprehensive analysis of customer satisfaction and perception towards electric vehicles in Coimbatore, focusing on various aspects such as product quality, pricing, environmental benefits, and the availability of charging infrastructure.

STATEMENT OF THE PROBLEM

The rapid growth of electric vehicles (EVs) in India has brought about significant changes in the automotive industry, but customer perception and satisfaction towards these vehicles remain a critical area for exploration, particularly in urban areas like Coimbatore. Although electric vehicles offer several environmental benefits, such as reduced emissions and lower operating costs, their adoption is still relatively slow in many cities. This research seeks to examine the factors influencing customer perception and satisfaction towards electric vehicles, focusing specifically on Coimbatore city.

OBJECTIVE OF THE STUDY

- To investigate the Customer perceptions of Coimbatore residents.
- To assess consumers receptiveness in adopting electric vehicles.
- To identify the main challenges and obstacles that potential customers face.

- To measure satisfaction levels of current EVs users regarding their experience.

REVIEW OF LITERATURE

- **MOHAMMED TARIQ NAYAAB.Dr. R.SATISH KUMAR (2022)** Does Consumer Perception Leads to Adoption Intention for Electric Vehicles: The article examines various factors affecting the adoption intention towards Electric Vehicles. The review analysis helped to understand the scenarios and future of EVs in India.
- **JOHN E. Anderson, Moritz Bergfeld, Do Minh Nguyen & Felix Steck (2022)** Real-world charging behavior and preferences of electric vehicles users in Germany: The paper and the findings fill the research gap and provide timely and relevant insights on charging behavior and preferences on electric vehicles.
- **MANJULA.B, SHILPA .B, SUNDARESH (2022)** A Study on Barriers to Adoption of Electric Vehicles: The study aims to find out those barriers to the adoption of electric vehicles. To know the reasons for its less promotion and to create awareness among the users in India.

SCOPE OF THE STUDY

The scope for customer perception and satisfaction towards electric vehicles (EVs) in Coimbatore city is influenced by factors such as growing environmental awareness, government incentives, and the availability of charging infrastructure. As more people seek sustainable alternatives to traditional vehicles, the city's urban landscape presents unique opportunities for EV adoption. The study look into how much information and awareness exists is about electric vehicles across various demographic groups and geographical areas.

LIMITATIONS OF THE STUDY

- The Study is time bound.
- The respondents were restricted only from Coimbatore city.

- The data was gathered only from 120 respondents.
- The duration of the study was finished in a very short period of time.

RESEARCH METHODOLOGY

Research methodology is defined as tools or instruments used to accomplish the goals and attributes of study.

METHODS OF DATA COLLECTION

The data was collected for the study is

- **PRIMARY DATA:** The primary data are those that are collected as fresh for the primary time. The primary data for this study is collected using Structured Questionnaire.
- **SECONDARY DATA:** Secondary data is collected from journals, magazines, books, newspapers, and the internet.
- **AREA OF STUDY:** The study was conducted in Coimbatore.
- **SAMPLE SIZE:** The sample size is 120.
- **TOOLS USED FOR ANALYSIS:** Data are analyzed using tools such as simple percentages and chi-square tests.
- **CHI-SQUARE ANALYSIS**
Formula: $\chi^2 = \sum (O-E)^2/E$
Degree of Freedom: $(r-1)*(c-1)$.

ANALYSIS AND INTERPRETATION PERCENTAGE ANALYSIS

TABLE 1: Showing Demographic Profile of the Respondent.

S. NO	Demographic	No of Respondents	Percentage
1.	Age	18 - 25	26.7%
		26 - 45	40%
		46 - 60	24.2%
		Above 60	9.2%
2.	Gender	Male	64.2%
		Female	35.8%
3.	Occupat	Employed	40%
		Self-employed	33.3%

	ion	Professionals	31	25.8%
		Others	1	0.8%
4.	Locality	Urban	52	43.3%
		Semi-urban	44	36.7%
		Rural	24	20%

INTERPRETATION

Table1 clearly state the demographic of the respondents. Most of them are Male. Majority of the respondents in the age group (26-45) years. Majority of them are Employed. Majority of the respondents reside in urban area.

TABLE 2: CHI-SQUARE ANALYSIS

Factors	Very Satisfied	Satisfied	Neutral	Not Satisfied	Very Dissatisfied	T
Male	22	21	13	12	9	77
Female	13	18	6	4	2	43
T	35	39	19	16	11	120

HYPOTHESIS:

H₀ = There is no significant relationship between Gender and Level of Satisfaction.

H₁ = There is significant relationship between Gender and Level of Satisfaction.

TABLE 3:

Variable	Degree of Freedom	Calculated Value	Table Value	Accepted / Rejected
Gender & Level of Satisfaction	4	4.290	9.488	H ₀ Accepted

Source: Primary source

Significance level: 0.05

RESULT:

The calculated chi – square value is (4.290) is less than (9.488) table value. Hence, the hypothesis is accepted. Therefore, there is no

significant relationship between Gender and level of Satisfaction of the respondents towards the electric vehicle.

FINDINGS

1. The majority 40% of the respondents are age in between 26-45 years.
2. The majority 64.2% of the respondents are Male.
3. The majority 40% of the respondents are employed.
4. The majority 38.3% of the respondents income level as between Rs.2,00,000-Rs.5,00,000.
5. The majority 43.3% of the respondents are from urban area.
6. The majority 45.8% of the respondents are very familiar with electric vehicles.
7. The majority 38.3% of the respondents are heard of electric two-wheelers.
8. The majority 34.2% of the respondents are got information from social media.
9. The majority 34.2% of the respondents are motivated with desire to reduce fuel consumption.
10. The majority 37.5% of the respondents are concerns with battery life and maintenance of EVs.
11. The majority 69.2% of the respondents believe that EVs reduces air pollution in Coimbatore.
12. The majority 37.5% of the respondents are easy to find a charging station for EVs in Coimbatore.
13. The majority 46.7% of the respondents were preferred with buying electric two-wheelers.
14. The majority 35.8% of the respondents are willing to travel 3-5 km for finding charging station for EVs.
15. The majority 37.5% of the respondents believe that somewhat, it needs improvement in road infrastructure for usage of EVs.
16. The majority 37.5% of the respondents say long charging times is a biggest

disadvantage of EVs compared to traditional vehicles.

17. The majority 32.5% of the respondents are satisfied with overall reviews and performance of EVs in Coimbatore.
18. The majority 35.8% of the respondents say that improved range and charging speed will be improvement for satisfaction levels of EVs.
19. The majority 37.5% of the respondents say may be for purchasing EVs in future.
20. The majority 40% of the respondents says yes, definitely for recommending EVs with friends and family.
21. The calculated chi – square value is (4.290) is less than (9.488) table value. Hence, the hypothesis is accepted. Therefore, there is no significant relationship between Gender and level of Satisfaction of the respondents towards the electric vehicle.

SUGGESTION

Customer perception and satisfaction towards electric vehicles (EVs) in Coimbatore can be influenced by various factors such as environmental awareness, infrastructure availability, and government incentives. Coimbatore, known for its industrial growth and environmental consciousness, has witnessed a growing interest in EVs. Many customers view EVs as an eco-friendly and cost-effective alternative to traditional gasoline-powered vehicles, contributing to reduced air pollution and long-term savings on fuel. Customer feedback in Coimbatore often highlights the need for more efficient and accessible charging points, along with clarity on battery life and maintenance. By addressing these concerns, EV adoption could become more widespread, contributing to a greener, more sustainable transportation system in the city.

CONCLUSION

In conclusion, customer perception and satisfaction towards electric vehicles (EVs) in Coimbatore city reflect a growing awareness and positive inclination towards sustainable transportation. While factors such as environmental benefits, cost savings on fuel, and government incentives are key drivers, challenges like limited charging infrastructure and higher initial costs still pose barriers to widespread adoption. Overall, customers are largely satisfied with their EVs, valuing their eco-friendliness and low maintenance costs, but they seek further enhancements in convenience and affordability for broader acceptance.

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