

# A Study on Consumer perception and buying behavior towards TATA EV's in Coimbatore City

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**Abstract**—The study on consumer perception and buying behavior towards Tata electric vehicles. The main objective of the study is to understand the awareness level, opinions, and purchase intention of consumers regarding Tata EVs. It also identifies the important factors that influence their decision to buy electric vehicles. The data study was collected from 106 respondents through a structured questionnaire. The respondents expressed concerns about charging infrastructure, driving range and safety. The study includes that Tata electric vehicles have good market potential with better charging facilities, improved awareness and effective marketing strategies, Tata EVs can increase their sales and gain more customer in the future.

## I. INTRODUCTION

The automobile industry in India is undergoing a significant shift due to the rapid growth of electric vehicles. Fuel prices, pollution, and awareness about sustainable development among consumers have encouraged people to look for alternative modes of transportation. Electric vehicles have become a green and cost-effective solution to reduce carbon footprint and fossil fuel consumption.

### City Description:

The city of Coimbatore, also known as one of the major industrial hubs in Tamil Nadu, has a growing population of educated and environmentally conscious consumers. The city is witnessing gradual growth in the adoption of electric vehicles due to increased awareness, infrastructure, and government policies. It is important to understand the consumer attitude and purchase behavior towards Tata EVs in

Coimbatore.

### Consumer Perception:

Consumer perception is a vital factor in understanding consumer purchase behavior, especially in the case of new technologies such as electric vehicles. Various factors, such as price, range, battery life, charging infrastructure, maintenance costs, brand reputation, and environmental concerns, influence consumer purchase behavior. Even though electric vehicles are a green solution and can save consumers money in the long term, consumers may still be hesitant due to concerns about charging infrastructure and initial investment costs.

## II. SCOPE OF THE STUDY

This study focus on consumer perception and buying behavior towards Tata EVs in Coimbatore city

## III. OBJECTIVES OF THE STUDY

- To study the level of awareness pertaining to Tata EVs amongst the consumers in Coimbatore city
- To analyze the perception of the consumers regarding the performance, safety, price, and reliability of Tata EVs
- To identify the major factors that affect the buying behavior of the consumers towards Tata EVs

IV. RESEARCH METHODOLOGY

The study assumes the characteristics of descriptive research to study the consumer perception and buying behavior towards Tata Electric Vehicles among people in Coimbatore city. Coimbatore city is selected as the area of analysis for the study.

V. RESEARCH DESIGN

The research design used in this study is Descriptive Research Design. Descriptive research design deals with describing the characteristics of a certain group. In descriptive research design, the respondent understands very well what the researcher wants. In this design, distinct information is provided to measure the data. This design helps in analyzing the consumer perception level, satisfaction level, and factors that influence the purchase.

Hypothesis

Ho (Null Hypothesis):

There is no significant difference in the distribution of respondents based on income groups.

Hi (Alternative Hypothesis):

There is a significant difference in the distribution of respondents based on income groups.

Expected Frequency (E) Since we have 4 categories:

$$E = 105 / 4 = 26.25$$

Chi-Square Formula  $\chi^2 = \sum \frac{(O-E)^2}{E}$

Calculation Table

Income Category	O	E	(O-E) <sup>2</sup> /E
Below ₹25,000	22	26.25	0.688
₹25,001– ₹50,000	8	26.25	12.686
₹50,001– ₹2,00,000	33	26.25	1.736
Above ₹2,00,000	42	26.25	9.450

Total Value	$\chi^2$		24.56
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Degrees of Freedom

$$df = n - 1 = 4 - 1 = 3$$

Table Value

At 5% level of significance and df=3:

$$\chi_{table} = 7.815$$

Result

Since calculated chi-square is 24.56 and table value is 7.815, we reject the null hypothesis.

Conclusion

There is a significant difference in the distribution of respondents based on income groups at 5% level of significance.

This shows that respondents are not equally distributed in different income categories and are highly concentrated in “Above ₹2,00,000

VI. SUGGESTION

- Tata Motors can enhance its charging infrastructure to reduce range anxiety.
- Awareness campaigns can be conducted to make consumers aware of government subsidies.
- Safety features can be promoted to gain consumers’ trust.
- Attractive finance plans can be introduced to cater to the demands of the middle class.
- Social media marketing can be strengthened because it is the primary source of awareness.
- Regular test drive campaigns can be conducted.
- Special marketing strategies can be formulated to attract women consumers.

VII. CONCLUSION

The study indicates that there is awareness and perception regarding Tata Electric Vehicles, and

these are positive. Tata Motor enjoys a high brand reputation and trust. Consumers appreciate Tata Electric Vehicles, considering them good in terms of technology, pricing, and value for money.

However, there are concerns regarding charging, range, and safety perception, which affect the purchase decision. Although conventional vehicles are dominating, there is high future purchase intention regarding Tata Electric Vehicles. With the development of infra, awareness, and promotional activities, Tata Electric Vehicles have high growth potential in the market. Overall, the study concludes that Tata Electric Vehicles have high growth potential in the future, provided appropriate improvements are made.

#### REFERENCE

- [1] Liu & Zhang (2023): This international research article aimed to examine the perception and intention of consumers towards electric vehicles in urban markets globally. Using a large-scale survey study, the research revealed that environmental attitudes and economic incentives significantly increased the intention to purchase electric vehicles. However, there are still concerns about charging and performance that affect consumer confidence.
- [2] Krishnan (2024): This cross-cultural study focused on understanding consumer perception and acceptance of electric vehicles across different countries. The research findings highlighted that though concern for the environment is a global motivator, economic incentives and charging infrastructure availability differ across countries and play a major role in consumer acceptance of electric vehicles.

#### WEBSITE

- [1] Tata Motors-Official Website  
<https://www.tatamotors.com>
- [2] Nexon EV-Product Details  
<https://ev.tatamotors.com>
- [3] Ministry of Heavy Industries-FAME India Scheme  
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