



# A Study on Customer Perception towards Electric Scooters in India

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## Abstract

*(The rapid growth of the electric scooter market in India reflects a significant shift in customer behaviour, influenced by rising fuel prices, increasing environmental awareness, and supportive government initiatives. However, the adoption of electric scooters differs among consumers due to variations in preferences, awareness, and perceptions. This study examines customer behaviour towards electric scooters by analysing important factors such as price, battery performance, driving range, charging convenience, brand image, design, safety features, and after-sales service. The research follows a descriptive design and is based on both primary and secondary data. Primary data were collected through a structured questionnaire from 350 respondents using convenience sampling, while secondary data were gathered from journals, reports, and online sources. Simple statistical tools such as percentage analysis, tables, and graphs were used for data interpretation. The findings reveal that customer purchase decisions are mainly influenced by factors such as price, driving range, and charging facilities, while the major challenges include high initial cost, limited charging infrastructure, battery-related concerns, and uncertainty about long-term reliability. The study also highlights differences in brand preference and awareness levels among consumers. Overall, the study provides valuable insights for manufacturers, marketers, and policymakers to better understand customer expectations and formulate effective strategies to promote electric scooters, while also contributing to the development of sustainable and eco-friendly transportation in India.)*

**(Keywords: Perception, Perception Models, Product, Price, Place, Promotion, Customer Awareness, Factors for Preference)**

## Introduction

The automobile industry in India is undergoing a significant transformation with the increasing adoption of electric vehicles (EVs), particularly electric scooters. This shift is mainly driven by rising fuel prices, growing environmental concerns, and strong government initiatives aimed at promoting sustainable transportation. Conventional petrol-powered two-wheelers contribute considerably to air pollution and carbon emissions, which has created a greater need for eco-friendly alternatives. In this context, electric scooters have emerged as a promising solution because of their lower environmental impact, reduced dependence on fossil fuels, and potential for cost savings in the long run. Government measures such as subsidies, tax benefits, and support for charging infrastructure have further accelerated the growth of the electric scooter market in India.

Despite these advantages, the adoption of electric scooters among consumers is not uniform and continues to develop gradually. Customer behaviour towards electric scooters is influenced by a variety of economic, technological, and psychological factors. Issues such as the high initial cost of electric scooters, concerns about battery life and performance, limited charging facilities, and charging time often create hesitation among potential buyers. At the same time, factors like brand image, scooter design, riding range, safety features, comfort, and after-sales service also play an important role in shaping customer preferences and purchase decisions. The level of awareness and knowledge about electric scooters further affects consumer

attitudes, as many customers still do not have complete information about their benefits, usability, and long-term value.

Understanding customer behaviour is therefore essential for the successful adoption and expansion of electric scooters in the Indian market. Analysing customer preferences, perceptions, and decision-making patterns helps manufacturers and marketers design better products and frame effective marketing strategies. It also enables policymakers to introduce suitable policies and infrastructure plans that address consumer concerns and encourage wider adoption. Moreover, studying customer behaviour provides insights into the challenges faced by users, such as maintenance issues, battery replacement cost, resale value, and long-term reliability, all of which are important for improving customer satisfaction and trust.

In this context, the present study focuses on analysing customer behaviour towards electric scooters, with special reference to selected respondents in Kerala. The study aims to identify the key factors influencing customer preferences, examine the challenges faced by consumers, and understand their level of awareness and satisfaction regarding electric scooters. By doing so, the research contributes to a better understanding of the changing consumer mindset in the electric vehicle segment and supports the development of strategies to promote sustainable mobility in India.

## Literature Review

The review of literature on customer preference towards electric vehicles (EVs) reveals a growing body of research focusing on the diverse factors influencing consumer behaviour, adoption intentions, and market acceptance across different regions and contexts. Poonam Adsule and M. Manoj (2026), in their study “*An Assessment of Consumer Preferences for Electric Scooters – Case Delhi, India,*” highlighted the variation in individual preferences using a latent class multinomial logit model. Their findings emphasized that financial incentives, loan interest rates, and psychological attitudes significantly influence EV adoption, suggesting the need for targeted policy interventions. Similarly, M. Balasubramanian and S. Sharif (2025), along with S. Mohamed Imran Sharif (2025), found that perceived cost savings play a crucial mediating role between customer preference and buying attitude, indicating that long-term economic benefits are key drivers of electric scooter adoption.

Further expanding on behavioural aspects, Samar Rahi et al. (2025) integrated the Theory of Planned Behaviour and identified factors such as environmental attributes, financial incentives, subjective norms, and green self-identity as significant determinants of purchase intention. Likewise, Deepak Jaiswal, Rishi Kant, and Babeeta Mehta (2025) emphasized the importance of techno-psychological factors under the UTAUT framework, revealing that perception–attitude–intention linkages strongly influence adoption, with gender differences also playing a moderating role. In addition, M.A. Jabbar et al. (2024) highlighted the role of battery technology and charging innovations in shaping consumer acceptance, pointing out that advancements such as wireless charging and improved battery capacity can significantly enhance electric scooter adoption.

Brand-related factors also play a vital role in influencing customer preferences. Kanittha Seskhumbong (2024) found that perceived brand value, including reputation, innovation, and environmental commitment, significantly affects purchase decisions. Similarly, Mohammed Samir M. Alsuwaidan (2024) identified green self-identity, perceived value, innovativeness, and environmental concern as major factors influencing purchase intention and actual buying behaviour. Supporting these findings, Udit Chawla et al. (2023) identified six key determinants—charging time, innovation, perceived quality, affordability, awareness, and comfort—that moderately influence electric scooter adoption in India.

Earlier studies also provide important insights into consumer perceptions and challenges. Suneel Sankala et al. (2022) observed that consumers generally have a positive perception of EVs due to environmental benefits, while Randy Vinstein Silaen and Nila Armelia Windasari (2022) identified price as the most influential factor in purchasing decisions, followed by government policies and emissions. Similarly, M.

Prabaharan and M. Selvalakshmi (2020) found that perceived usefulness, ease of use, and affordability significantly influence purchase intention, while Omkar Tupe et al. (2020) emphasized the importance of awareness, infrastructure, and policy support in shaping consumer perception. Studies by M.G. Bhaskar et al. (2020) further revealed that EVs are often preferred as secondary vehicles due to limitations in range and performance.

From a behavioural and emotional perspective, Jay P. Trivedi and Kaushal Kishore (2020) highlighted the importance of brand attitude and brand love in influencing purchase intention, while Milad Ghasri et al. (2019) found that design, safety, and environmental benefits significantly shape consumer preferences across generations. The study by Steven Beggs et al. (2019) confirmed that consumer preferences vary widely, indicating the need for personalized strategies. In addition, Christoph Mazur et al. (2018) highlighted that policy support and technological advancements alone are insufficient without changes in user preferences, while Scott Hardman et al. (2018) emphasized the critical role of charging infrastructure, particularly home and workplace charging, in promoting electric scooter adoption.

Other significant contributions include Pretty Bhalla et al. (2018), who identified environmental awareness and trust in technology as positive drivers, and Roger Bennett and Rohini Vijaygopal (2018), who explored the role of self-image congruence and stereotypes in shaping attitudes. The comprehensive review by Fanchao Liao et al. (2017) concluded that financial, technical, psychological, and social factors collectively influence EV adoption. Earlier foundational studies by Wonsuk Ko and Tae-Kyung Hahn (2013) emphasized the importance of battery technology and subsidy design, while Nadine Bessenbach and Sebastian Walirapp (2013) highlighted consumer resistance due to negative perceptions and lack of acceptance.

Overall, the literature indicates that customer preference towards electric scooters is influenced by a complex interaction of economic, technological, psychological, environmental, and social factors. While factors such as price, battery performance, charging infrastructure, and government incentives remain critical, emerging aspects like brand value, green identity, and techno-psychological perceptions are increasingly shaping consumer behaviour. Despite extensive research, gaps remain in understanding localized consumer preferences and the relative importance of these factors in specific contexts, thereby justifying the need for further empirical studies on customer preference towards electric scooters.

## Research Gap

Despite a growing body of literature on electric vehicles, there remains a lack of clear understanding regarding the most influential factors shaping customer preference and purchase decisions toward electric scooters. While previous studies have identified various determinants such as price, driving range, charging infrastructure, technological advancements, government incentives, environmental awareness, and psychological attitudes, the relative importance of these factors varies across different consumer groups and contexts. Moreover, although consumers generally exhibit a positive perception towards electric vehicles, significant barriers such as high initial cost, limited charging infrastructure, lack of awareness, and concerns about battery performance and reliability continue to hinder widespread adoption. In addition, the interplay between economic benefits, environmental concerns, and brand perception in influencing consumer behaviour is not fully understood. Therefore, the research problem lies in identifying and analysing the key factors that significantly influence customer preference towards electric scooters and understanding the challenges faced by consumers in adopting this emerging mode of transportation, particularly in a specific regional context.

## Objectives of the study

- To explore the factors influencing customer Perception towards Electric Scooters.
- To analyze the factors influencing customer Perception towards Electric Scooters.
- To identify the most influencing factor for customer Perception.
- To identify the most preferred brand.

## Hypothesis

- I. Ho: Customers Perception towards electric Scooters are same  
H1: Customer Perception towards electric Scooters are not same
- II. Ho: There is no significant influence of Marketing Mix variables on Customer Perception  
H1: There is significant influence of Marketing Mix variables on Customer Perception

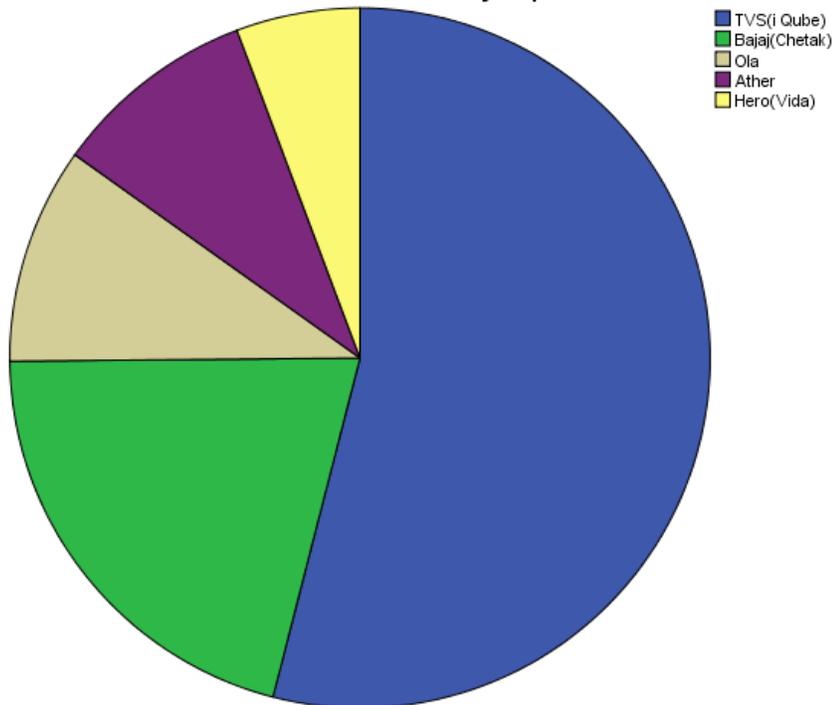
## Research Methodology

The research methodology adopted for this study is descriptive in nature and focuses on analyzing customer preference towards electric Scooters. The study is based on both primary and secondary data. Primary data were collected from 350 respondents using a structured questionnaire to understand their preferences, awareness levels, perceptions, and challenges related to electric Scooters, while secondary data were gathered from journals, research articles, industry reports, and reliable online sources. The respondents were selected using a convenient sampling method from the study area. The collected data were systematically analysed using appropriate statistical tools such as the Chi-square test to examine the association between variables and Regression Analysis to identify the impact and significance of various factors influencing customer preferences towards electric Scooters. The analysis aims to identify key determinants such as price, driving range, charging infrastructure, technological features, environmental concerns, and government incentives, while also addressing the existing research problem of understanding the relative importance of these factors and the barriers affecting the adoption of electric vehicles. The findings are presented using tables and graphs for clear interpretation and meaningful conclusions.

## Analysis and Result

- I. Ho: Customers Preference towards electric Scooters are same  
H1: Customer Preference to towards electric Scooters are not same

9.Which brand do you prefer most?



9.Which brand do you prefer most?

	Observed N	Expected N	Residual
TVS(i Qube)	189	70.0	119.0
Bajaj(Chetak)	73	70.0	3.0
Ola	35	70.0	-35.0
Ather	33	70.0	-37.0
Hero(Vida)	20	70.0	-50.0
Total	350		

Test Statistics

	9.Which brand do you prefer most?
Chi-Square	275.200 <sup>a</sup>
df	4
Asymp. Sig.	.000

The analysis indicates that respondents have varying opinions regarding different brands. Since the p-value is less than 0.05, (ie .001 )the Chi-square result is statistically significant, implying that there is a significant difference in respondents’ preferences across the brands. Tata motors have significant influence in sales

The table presents the observed and expected frequencies of customer preferences for different electric scooter brands. The expected frequency for each brand is 70, assuming equal preference among all five brands.

From the analysis, TVS iQube shows a very high observed value (189) compared to the expected value (70), resulting in a large positive residual of 119. This indicates that the preference for TVS iQube is significantly higher than expected, suggesting it is the most preferred brand among respondents.

Bajaj Chetak has an observed value of 73, which is very close to the expected value (70), with a small residual of 3. This implies that customer preference for Bajaj Chetak is approximately as expected, indicating an average level of preference.

Overall, the results suggest a significant variation in customer preferences across brands. TVS Motor Company dominates customer choice, while the other brands, especially Hero Vida, lag behind. This implies that brand preference is not equally distributed, and certain brands have a stronger influence on consumer decision-making in the electric scooter market.

II Ho: There is no significant influence of Marketing Mix variables on Customer Perception

H1: There is significant influence of Marketing Mix variables on Customer Perception

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777 <sup>a</sup>	.604	.600	.71852

a. Predictors: (Constant), PMean, Place\_mean1, Promotion\_mean1, Price\_mean1

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	272.186	4	68.047	131.806	.000 <sup>b</sup>
1 Residual	178.111	345	.516		
Total	450.297	349			

a. Dependent Variable: Perception\_Mean

b. Predictors: (Constant), PMean, Place\_mean1, Promotion\_mean1, Price\_mean1

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.720	.105		6.875	.000
1 Price_mean1	.646	.078	.626	8.320	.000
1 Place_mean1	.016	.058	.015	.273	.785
1 Promotion_mean1	.051	.076	.045	.677	.499
1 PMean	.118	.064	.119	1.853	.065

a. Dependent Variable: Perception\_Mean

**Interpretation:** Since the Adjusted  $R^2$  value is .60 means that all marketing mix factors have 60 % influence on Perception. ie 1% change in Marketing Mix variables leads to .60 change in Perception Levels. Here the price (p value .001 which is less than .05) has significant influence on Perception of EV vehicles.

## Impact

Previous studies indicate that customer preference toward electric scooters has a significant and positive impact on the growth and transformation of the automobile industry, particularly in the two-wheeler segment. Research findings reveal that factors such as environmental awareness, cost efficiency, ease of use, compact design, and supportive government incentives strongly influence consumer inclination toward electric scooters. As customer preference shifts from conventional fuel-powered two-wheelers to electric scooters, it accelerates market demand, encourages innovation among manufacturers, and promotes the development of charging infrastructure tailored to urban mobility.

Moreover, electric scooters are increasingly preferred due to their suitability for short-distance travel, lower maintenance cost, and convenience in congested city environments. Positive consumer perception and willingness to adopt electric scooters contribute significantly to reducing carbon emissions and achieving sustainable transportation goals. Studies also highlight that socio-demographic factors and psychological attitudes, such as environmental consciousness and openness to new technology, play a crucial role in shaping preferences and purchase decisions.

Overall, customer preference acts as a strong driving force that determines the success of electric scooters in the market, supports their widespread adoption, and influences future mobility trends, especially in urban and semi-urban areas.

## Recommendations

Based on the study findings, several recommendations can enhance the adoption and customer satisfaction of electric scooters. Manufacturers should improve key features such as battery efficiency, riding range, and charging time, while adopting attractive pricing strategies through cost reductions and flexible financing options. Government support should be strengthened by expanding subsidies and developing reliable charging infrastructure to reduce range anxiety. Increasing awareness about the economic and environmental benefits of electric scooters is also essential. Additionally, companies should focus on better after-sales services, including maintenance and battery warranties, and integrate smart technologies to enhance user experience. Finally, targeted marketing strategies for different customer segments will further promote the widespread adoption of electric scooters.

## Originality and Value of the study

The present study offers significant originality and value by focusing specifically on customer preference toward electric scooters within a localized context, providing practical and relevant insights for policymakers, marketers, and manufacturers. Unlike many previous studies that broadly examine electric vehicle adoption, this research emphasizes the influence of key factors such as scooter attributes, pricing, charging infrastructure, and consumer attitudes in shaping preference and purchase intention. It also integrates both demographic and psychological aspects, offering a comprehensive understanding of consumer behavior in the two-wheeler segment. The study's value is further strengthened by its empirical approach, using statistical tools such as the Chi-square test and regression analysis to establish relationships between customer preference and major determinants of adoption. The findings contribute to existing literature by connecting theoretical concepts with real-world consumer behavior, particularly in emerging markets, and provide practical implications for companies to develop customer-centric strategies

and for governments to design effective policies. Overall, the study adds meaningful insights to the growing field of electric mobility and supports the transition toward sustainable and eco-friendly transportation through electric scooter

## Practical Implications

The study on customer preference toward electric vehicles (EVs) provides several practical implications for key stakeholders, including automobile manufacturers, policymakers, and marketers. For manufacturers, the findings highlight the need to focus on improving core product attributes such as battery efficiency, driving range, safety features, and overall vehicle performance, as these significantly influence customer preference and purchase decisions. Companies should also adopt competitive pricing strategies and offer flexible financing options to make EVs more accessible to a broader customer base. For policymakers, the study emphasizes the importance of strengthening supportive measures such as subsidies, tax incentives, and investment in charging infrastructure to reduce barriers to adoption. Expanding public charging networks, especially in semi-urban and rural areas, can enhance consumer confidence and reduce range anxiety.

From a marketing perspective, firms should design targeted awareness campaigns and customer education programs to increase knowledge about the economic and environmental benefits of EVs. Enhancing after-sales services, including maintenance facilities and battery replacement support, can further build trust and long-term customer satisfaction. Additionally, leveraging digital platforms and smart technologies can improve customer engagement and overall user experience. Overall, the study provides actionable insights that help stakeholders develop effective strategies to accelerate EV adoption, improve customer satisfaction, and support the transition toward sustainable mobility.

## Conclusions

In conclusion, the study on customer preference toward electric vehicles (EVs) highlights that consumer attitudes, vehicle attributes, pricing, and infrastructural support significantly influence purchase decisions and adoption levels. The findings reveal a growing awareness and positive inclination toward EVs, largely driven by increasing environmental concerns, potential cost savings, and continuous technological advancements. However, the study also identifies key challenges that hinder widespread adoption, including high initial purchase cost, inadequate charging infrastructure, and range anxiety. These barriers continue to shape consumer hesitation and impact overall market penetration.

The analysis confirms that customer preference is a crucial determinant in shaping the future demand for electric vehicles, thereby influencing market trends and the growth of the EV industry. The use of statistical tools such as the Chi-square test and regression analysis further validates the significant relationship between influencing factors and customer preference.

Overall, the study emphasizes the need for coordinated efforts from manufacturers, policymakers, and marketers to overcome existing challenges and promote EV adoption. The transition toward electric mobility represents not only a technological advancement but also a behavioral shift among consumers. Therefore, a deep understanding of customer preferences is essential for ensuring sustainable and long-term growth in the electric vehicle sector.

## Limitations of the study

1. The study is limited to a specific geographical area, so the findings reflect only the preferences and perceptions of customers within that locality and cannot be generalized to a wider population.

2. Variations in charging infrastructure and government support across regions significantly influence customer preference and EV adoption levels.
3. Regional differences in income, urbanization, awareness, and accessibility lead to varying consumer behavior toward electric vehicles.
4. Cultural, social, and urban–rural differences are not fully captured, making the results location-specific and limiting their broader applicability.

## Scope for future Research

The present study suggests several directions for future research on customer preference toward electric vehicles (EVs). Future studies can expand the geographical scope and include a larger, more diverse sample covering rural, semi-urban, and urban populations to improve generalizability. Researchers may also incorporate additional variables such as brand image, policy awareness, technological trust, and environmental concern to better explain consumer behavior. Longitudinal and comparative studies can further examine changes in preferences over time and differences between EVs and conventional vehicles. Additionally, exploring the role of financial support and using qualitative methods can provide deeper insights into consumer attitudes and adoption patterns.

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