



Customer Satisfaction towards Electric Bikes A Study in Sivakasi

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Abstract

In Sivakasi, an area where environmentally friendly mobility options are being adopted gradually, this study investigates consumer satisfaction with electric bikes. Finding the variables that affect user experience, post-purchase satisfaction, and buy decisions is the main goal of the study. Using a standardized questionnaire, 120 respondents provided primary data. Performance, ease of charging, design, cost, and post-purchase support are among the important factors that were examined. The data was analyzed using statistical methods like percentage analysis. The findings show that cheap maintenance, low operating costs, and environmental advantages are important factors in purchasing decisions. Concerns about battery life and a lackluster charging infrastructure, however, restrict satisfaction levels. According to the report, bolstering service networks and upgrading charging stations could improve consumer satisfaction and hasten the region's adoption of electric bikes.

Keywords: E-bikes, E-vehicles, customer satisfaction, buying, and technology

Introduction

Electric bikes are increasingly being recognized as a sustainable alternative to petrol-driven two-wheelers, driven by the dual forces of rising fuel costs and growing environmental concerns. In India, government incentives, advancements in battery technology, and the expansion of charging infrastructure have significantly boosted e-bike adoption. In a mixed urban-rural market like Sivakasi, consumer preferences are shaped by factors such as affordability, performance, mileage, and reliable after-sales service. Customer satisfaction is a critical driver of brand loyalty, encouraging repeat purchases and positive recommendations. Loyalty, in this context, reflects the level of trust and emotional

connection customers develop with a brand through their interactions, and it is influenced by perceived product quality, perceived product value, convenience, customer expectations, effective communications, and efficient complaint handling. Understanding these factors is essential for devising strategies to enhance customer satisfaction and strengthen the e-bike market in Sivakasi.

Why Customer Satisfaction is Important

Measuring and improving customer satisfaction is essential for ensuring the long-term success of a business. Satisfied customers not only enhance customer lifetime value as retaining existing customers is more cost-effective than acquiring new ones but also contribute to profitability through repeat



purchases. High satisfaction levels help minimize customer churn, reducing the constant pressure to replace lost customers. Moreover, satisfied customers play a significant role in enhancing brand reputation, as they are more likely to recommend the brand to others, generating positive word-of-mouth and favorable online reviews. Effective customer satisfaction strategies also drive revenue growth by encouraging repeat purchases and referrals, leading to a steady and potentially increasing income stream. Regular assessment of satisfaction levels enables businesses to identify gaps, implement improvements, and ensure ongoing competitiveness in the market.

Review of Literature

D. Sivasakthi et al. (2020) found that electric vehicles lower air and noise pollution, and the battery used in the vehicle offers low maintenance costs, long range, speed, affordability, lightweight, and introduction of new technologies without the need for fuel. The majority of consumers are happy with the vehicle's quality, price, performance, servicing, and maintenance; it's also easy to drive and lightweight, among other features. As a result, most consumers are willing to purchase electric vehicles, which will rank first among all vehicles by 2030.

K. Selvaraju et al. (2021), the features of electric vehicles are driving up demand for them daily. Such as low noise levels, great efficiency, and zero carbon emissions. The consumer requires vehicles that run well, have a strong brand, are reasonably priced, and have good charging infrastructure. Customers are becoming more environmentally conscious and switching from conventional cars to electric vehicles, plug-in hybrid vehicles, hybrid electric vehicles, and fuel cell electric vehicles as a result of the importance of these electric vehicles in lowering greenhouse gas emissions and maintaining environmental sustainability.

In their study, Navaneeth M et al. (2021) noted that battery development is essential to the growth of the EV business since it affects performance, safety, cost, and range. When lead acid batteries were first introduced, they had little cyclic life and were large in size. Better power-to-weight ratio, reduced weight,

and cost effectiveness were all provided by nickel-cadmium batteries. Because of their smoother electrode process, nickel metal hydride batteries significantly expedited the proliferation of EVs. Because of their greater energy density, longer lifespan, and lack of memory effect, lithium-ion (Li-ion) batteries have emerged as a potent substitute.

Objectives of the Study

- To Study the evolution of electric vehicles in India.
- To analyze the daily usage patterns of electric bike users in terms of average kilometers traveled.
- To assess the preferred charging duration among electric bike owners.
- To evaluate consumer preferences regarding the price range of electric bikes.

Hypothesis for the Study

Hypothesis 1: The Customers are satisfied with two-wheeler electric vehicles.

Hypothesis 2: The Customers are Not- Satisfied with two-wheeler electric vehicles

Methodology of Study

Geographical area covered

For study we have chosen place of the study and survey in Sivakasi only with the concern of time availability and convenient purpose.

Sample Design

The study adopted a convenient sampling method to collect data from respondents. The research was conducted in Sivakasi, targeting individuals who are active users of electric bikes. A total of 120 electric bike users were selected as the sample size to ensure adequate representation for analysis and interpretation of consumer preferences, usage patterns, and satisfaction levels.

Data Collection Method

- Primary Method: A carefully thought-out questionnaire was created to get the clients' primary data.



- **Secondary Data:** The primary sources of secondary data include various journals and research articles.

Theoretical Framework

Evolution of Electric vehicle in India

Technological developments, environmental concerns, and regulatory measures have all influenced the development of electric vehicles (EVs) in India. At first, the country's adoption of EVs was sluggish and restricted to a small number of low-performance, short-range two- and three-wheeler models. However, the transition to sustainable mobility has been quickened by increased awareness of climate change, rising fuel prices, and the need to lessen reliance on fossil fuels. Through programs like the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) plan, tax breaks, and incentives for both purchasers and producers, the government has played a significant role.

The EV market is now one of the fastest-growing sectors of the Indian car industry because to developments in battery technology, better charging infrastructure, and the arrival of significant automakers. A cleaner, greener, and more energy-efficient transportation future in India is being paved by the growing popularity of electric two-wheelers, three-wheelers, buses, and passenger automobiles.

Reasons for Introducing Electric vehicle in India

Several economic, environmental, and societal issues are driving the adoption of electric cars (EVs) in India. Due in major part to vehicle emissions, some Indian cities are among the most polluted in the world, making the urgent need to reduce air pollution one of the main causes.

Since EVs have no exhaust emissions, they are a greener option than traditional gasoline and diesel cars. EVs are a feasible way to lessen fuel imports and increase energy security because of India's significant reliance on imported crude oil, which presents both strategic and economic difficulties. The argument for switching to electricity-driven mobility, which may be fueled by renewable energy sources, is further strengthened by the growing price of fossil fuels. Additionally, the international effort to address climate change and fulfill India's obligations under

Furthermore, the adoption of sustainable transport solutions has been aided by the international effort to address climate change and fulfill India's obligations under the Paris Agreement. Last but not least, the widespread adoption of electric vehicles in the nation has been spurred by developments in battery technology, government incentives through programs like FAME, and the rising demand for contemporary, environmentally friendly mobility solutions.

Growth of Electric Bike in India

The electric bike market in India is experiencing substantial growth, driven by factors like rising petrol costs, environmental awareness, and government incentives. Projections indicate significant expansion, with some forecasts estimating a 28.34% compound annual growth rate (CAGR) between FY2025-FY2032.

Analytical and Interpretative Structure

Gender Wise Classification

Table 1 Gender Wise Classification

S. No	Gender	No. of Respondents	Percentage to the Total
1	Male	81	67.50
2	Female	39	32.50
Total		120	100.00

Primary Data

Out of 120 respondents, 81 (67.50%) were male and 39 (32.50%) were female, showing a higher participation of males in the survey.

Approximate usage of Per Day

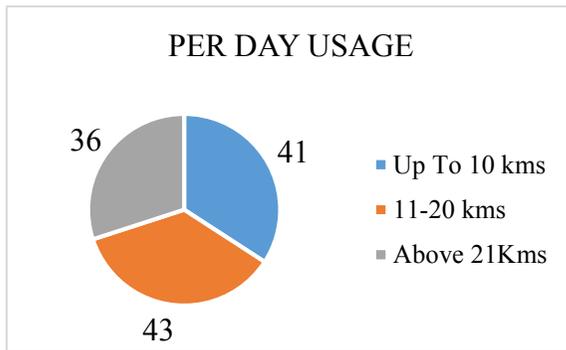
Table 2 Approximate Usage of per day

S. No	Per day Usage	No. of Respondents	Percentage to the Total
1	Up To 10 kms	41	34.17
2	11-20 kms	43	35.83
3	Above 21Kms	36	30.00
Total		120	100.00



Primary Data

Out of 120 respondents, 41 (34.17%) use their vehicle up to 10 km per day, 43 (35.83%) travel 11–20 km, and 36 (30.00%) travel more than 21 km daily, indicating that medium-distance usage is the most common.



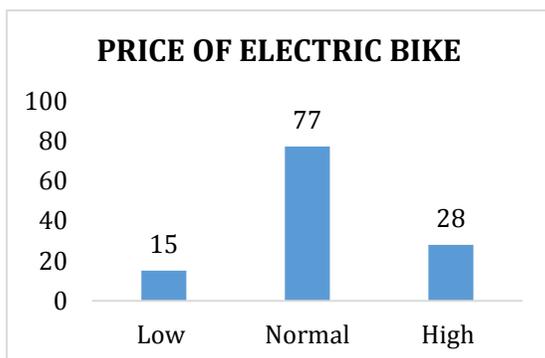
Price of Electric Bike

Table 3 Price of Electric Bike

S. No	Price of Electric Bike	No. of Respondents	Percentage to the Total
1	Low	15	12.50
2	Normal	77	64.20
3	High	28	23.30
Total		120	100.0

Primary Data

Out of 120 respondents, 15 (12.50%) purchased low-priced electric bikes, 77 (64.20%) opted for normal-priced models, and 28 (23.30%) chose high-priced ones, showing that most buyers prefer electric bikes in the normal price range.



Brand of Electric Bike

Table 4 Brand of Electric Bike

S.No	Brand	No. of Respondents	Percentage to the Total
1	Hero Electric Dash	37	30.80
2	Ola S1	44	36.60
3	Super Eco SE2	7	5.80
4	TVS iQub	32	26.70
Total		120	100.0

Primary Data

Out of 120 respondents, 37 (30.80%) own Hero Electric Dash, 44 (36.60%) use Ola S1, 7 (5.80%) prefer Super Eco SE2, and 32 (26.70%) have TVS iQube, indicating that Ola S1 is the most popular brand among the respondents.

Stimulating Factor

The study has analysed the Fuel bike with Electric Bike Service of the respondents. The relevant figures are shown in the following

Table 5 Fuel Bike with Electric-Bike

S. No	Compared	No. of Respondents	Percentage to the Total
1	Comfortable	36	30.00
2	Easily controllable	29	24.20
3	Economy	27	22.50
4	Look like reach	28	23.30
Total		120	100.00

Out of 120 respondents, 36 (30.00%) considered electric bikes comfortable, 29 (24.20%) found them easily controllable, 27 (22.50%) preferred them for economy, and 28 (23.30%) valued their stylish appearance, showing comfort as the most noted advantage.

Summary of Findings

1. The majority of 67.50 Per cent respondents are male and remaining 32.50 per cent respondents are female.



2. Approximate usage in per day 34.17 per cent respondents are Upto 10 kms, 35.83 per cent respondents are between 11 to 20 kms and 30.00 per cent respondents are above 21kms.
 3. Charging hours 36.66 per cent respondents are Upto 2hours, 54.16 percent respondents are between 3 to 4 hours and 9.18 per cent respondents are above 5hours.
 4. 12.50per cent respondents low price of electric bike, 64.20 per cent of the respondents normal price of electric bike and 23.30 of respondents high price of electric bike.
 5. 66.70 per cent respondents the mode of purchase is full cash, 7.50 per cent respondents the mode of purchase is gift from parents and reminding 25.80 per cent respondents the mode of purchase is loan /EMI.
 6. 65.00 per cent respondents opinion about available of the spare of the bike easily available and 35.00 per cent respondents are not available of the spare of bike.
 7. 12.82 per cent respondents are nearby garage, 76.92 per cent respondents are show room and 10.26 per cent respondents are well known mechanic.
 8. 20.80 per cent respondents are look of the electric bike 48.30 per cent respondents are by mileage of the electric bike, 14.20 per cent respondents are no need to change and 16.70 per cent respondents are speed stimulated.
4. Strengthen Brand Differentiation – Competing brands should enhance their market share by showcasing unique features, better after-sales service, or competitive financing options to challenge Ola S1’s dominance.
 5. Enhance Comfort and Control – Improve design ergonomics, suspension systems, and handlebar adjustments to ensure a more comfortable and easily controllable riding experience.
 6. Increase Spare Parts Availability – Establish a wider distribution network and more authorized service centers to make spare parts easily accessible, especially in semi-urban and rural areas.
 7. Improve Charging Infrastructure – Install fast-charging points at showrooms, public locations, and workplaces to reduce charging time and improve user convenience.
 8. Offer Flexible Financing – Introduce zero down-payment plans, low-interest EMIs, and exchange offers to attract customers who are price-sensitive or budget-constrained.
 9. Focus on Mileage Improvement – Invest in battery efficiency upgrades and offer mileage guarantees to strengthen trust among customers who prioritize performance.
 10. Promote Economic & Environmental Benefits – Conduct campaigns highlighting cost savings, fuel independence, and eco-friendly benefits to encourage adoption in mixed urban–rural markets like Sivakasi.

Suggestions

1. Target Female Riders – Launch awareness campaigns, safety workshops, and promotional offers specifically designed to attract more female customers, balancing the current male-dominated market.
2. Optimize Battery Range – Develop models with battery capacities suited for the most common travel range of 11–20 km per day, ensuring efficiency without increasing production costs unnecessarily.
3. Focus on Popular Price Segments – Since most buyers choose normal-priced e-bikes, manufacturers should prioritize this range while

Conclusion

The study highlights significant insights into consumer behavior and preferences towards electric bikes in Sivakasi. The findings reveal that the majority of users are male, with a predominant daily usage ranging between 11 and 20 kilometers, suggesting that e-bikes are largely used for medium-distance commuting. Most respondents prefer electric bikes in the normal price range, with Ola S1 emerging as the most popular brand, followed by Hero Electric Dash and TVS iQube. Comfort, ease of control, economy, and stylish design are recognized as the key advantages over



conventional fuel bikes, with comfort ranking the highest. Purchasing patterns indicate a strong inclination towards full cash payments, while the majority also report easy availability of spare parts, primarily relying on showrooms for maintenance. Performance factors such as mileage, appearance, and speed continue to influence buying decisions, with mileage emerging as the dominant consideration. Overall, the results suggest that electric bikes are gaining steady acceptance, driven by cost-effectiveness, convenience, and design appeal, and that further growth can be achieved through enhanced service networks, brand diversification, and sustained consumer awareness initiatives.

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