

## Determinants Of Customer Satisfaction With Electric Two-Wheelers: Evidence From Emerging Markets

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### ABSTRACT

The rapid growth of electric mobility has transformed the transportation sector and accelerated the adoption of electric two-wheelers (E2Ws) in emerging markets. However, sustaining this growth requires a comprehensive understanding of the factors influencing customer satisfaction. The present study investigates the impact of Vehicle Performance and Reliability (VPR), Charging Infrastructure Accessibility (CIA), and After-Sales Service and Maintenance Support (ASMS) on Customer Satisfaction (CS) among electric two-wheeler users. Primary data were collected from 290 respondents comprising college-going students and office-going individuals using a structured questionnaire based on a five-point Likert scale. Reliability analysis, descriptive statistics, Pearson correlation, and multiple regression techniques were employed for data analysis. The findings reveal that all three determinants exert a positive and significant influence on customer satisfaction, with Vehicle Performance and Reliability emerging as the most influential factor. The study contributes to the existing literature on sustainable mobility by providing empirical evidence from emerging markets and offers managerial implications for manufacturers, service providers, and policymakers aiming to enhance customer experiences and promote electric mobility....

**Keywords::** Electric Two-Wheelers, Customer Satisfaction, Vehicle Performance and Reliability, Charging Infrastructure Accessibility, After-Sales Service and Maintenance Support, Emerging Markets.....

### INTRODUCTION:

Growing environmental concerns, increasing fuel prices, and supportive government initiatives have accelerated the transition towards sustainable transportation systems worldwide. Electric vehicles (EVs), particularly electric two-wheelers (E2Ws), have emerged as a viable alternative to conventional internal combustion engine vehicles because of their lower operating costs, energy efficiency, and environmental benefits. Emerging economies such as India are experiencing a substantial transformation in mobility patterns owing to increasing awareness regarding sustainability and favorable policy interventions.

India has emerged as one of the fastest-growing electric vehicle markets globally. According to the India Energy Storage Alliance (IESA), total electric vehicle sales in India surpassed 2.3 million units in 2025, reflecting significant growth compared with previous years. Among various categories, electric two-wheelers accounted for approximately 1.28 million units, representing nearly 56% of total electric vehicle sales. Furthermore, electric two-wheelers contributed approximately 6.3% of overall two-wheeler sales in India during 2025, indicating increasing consumer acceptance and market penetration.

The Indian electric two-wheeler market has witnessed remarkable expansion over recent years. Industry

estimates suggest that the market was valued at approximately USD 1.45 billion in 2024 and is expected to grow at a compound annual growth rate (CAGR) of around 28–30% during 2025–2034. Electric scooters and mopeds constitute nearly 88% of the segment, while lithium-ion batteries account for more than 80% of battery installations. These developments indicate the increasing maturity and technological advancement of the electric mobility ecosystem.

From an economic perspective, electric two-wheelers offer considerable advantages over conventional vehicles. Studies indicate that the average operating cost of electric two-wheelers is approximately ₹1.48 per kilometer compared with nearly ₹2.46 per kilometer for petrol-powered two-wheelers, making electric mobility an economically attractive alternative. Government initiatives such as the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME-II) scheme and various state-level incentives have further contributed to the expansion of charging infrastructure and increased affordability of electric vehicles.

Despite the rapid growth of the electric vehicle ecosystem, long-term sustainability depends not only on adoption but also on customer satisfaction and post-purchase experiences. Customer satisfaction has become an essential indicator of sustainable growth because satisfied consumers are more likely to continue using electric

vehicles, recommend them to others, and contribute to market expansion. Previous studies have emphasized that vehicle quality, battery performance, and reliability significantly affect customer experiences and satisfaction levels. Similarly, charging infrastructure accessibility remains an important determinant of consumer confidence and convenience, while efficient after-sales service and maintenance support contribute positively to post-purchase experiences and customer loyalty.

Although extensive research has been conducted on electric vehicle adoption and purchase intentions, relatively limited empirical evidence exists regarding customer satisfaction with electric two-wheelers, particularly in the context of emerging markets. Most previous studies have concentrated on adoption behavior rather than post-purchase experiences. Furthermore, the combined influence of Vehicle Performance and Reliability, Charging Infrastructure Accessibility, and After-Sales Service and Maintenance Support on Customer Satisfaction has received limited attention. Therefore, the present study attempts to examine the determinants of customer satisfaction with electric two-wheelers among college-going students and office-going consumers in emerging markets.

The findings of this study are expected to provide valuable insights for manufacturers, service providers, and policymakers seeking to formulate customer-centric strategies and promote sustainable mobility.

## 2. Literature Review

Customer satisfaction has emerged as a crucial determinant of sustainable growth and long-term success in the electric vehicle industry. Previous studies have emphasized that customer satisfaction is influenced by multiple factors associated with product performance, infrastructure availability, and service quality. In the context of electric two-wheelers, Vehicle Performance and Reliability (VPR), Charging Infrastructure Accessibility (CIA), and After-Sales Service and Maintenance Support (ASMS) have received considerable attention in the literature. However, empirical evidence concerning their combined impact on customer satisfaction in emerging markets remains limited.

### Vehicle Performance and Reliability and Customer Satisfaction

Vehicle Performance and Reliability constitute one of the most important factors influencing customers' post-purchase experiences and satisfaction levels. Consumers evaluate electric vehicles based on battery efficiency, driving range, acceleration, durability, and overall operational reliability. Dua et al. (2021) identified technical performance and reliability as important determinants affecting electric vehicle adoption and user experiences. Similarly, Cruz-Jesus et al. (2023) reported that pragmatic and functional attributes positively influence customer satisfaction and continuance intentions among electric vehicle users. Zhao et al. (2023) found that improvements in vehicle quality and reliability significantly enhance user satisfaction across different electric vehicle segments.

Liang et al. (2024) employed machine learning techniques to analyze online reviews and concluded that battery performance and driving quality are among the primary determinants of customer satisfaction. Rehman et al. (2024) further emphasized that customer satisfaction significantly contributes to electric vehicle adoption and continued usage. Feng et al. (2025) reported that performance-related attributes exert a strong influence on user satisfaction and repurchase intentions. These findings indicate that superior vehicle performance and reliability enhance customers' perceptions and ownership experiences. Therefore, the following hypothesis is proposed:

**H11:** Vehicle Performance and Reliability has a significant effect on Customer Satisfaction.

### Charging Infrastructure Accessibility and Customer Satisfaction

Charging infrastructure accessibility has become one of the major concerns influencing the adoption and usage of electric vehicles. Adequate charging facilities reduce range anxiety and improve consumers' confidence regarding electric mobility. Kumar et al. (2021) highlighted the importance of charging infrastructure investment in promoting electric vehicle adoption. Jia and Chen (2021) observed that accessibility and convenience of charging facilities significantly influence ownership experiences and satisfaction.

Liu et al. (2021) developed a charging station access equilibrium model and demonstrated that charging station availability improves consumer convenience and operational efficiency. Khan et al. (2021) emphasized that equitable access to charging infrastructure is essential for sustainable electric mobility. Rempel et al. (2024) reported that the reliability of public fast chargers significantly affects customer confidence and satisfaction. Hao et al. (2025) further demonstrated that expansion of charging infrastructure positively influences electric vehicle diffusion and user experiences. These studies suggest that charging infrastructure accessibility is a crucial determinant of customer satisfaction. Therefore, the following hypothesis is formulated:

**H12:** Charging Infrastructure Accessibility has a significant effect on Customer Satisfaction.

### After-Sales Service and Maintenance Support and Customer Satisfaction

After-sales service and maintenance support play an important role in shaping customers' post-purchase experiences and long-term relationships with manufacturers. Effective service delivery, timely maintenance, and prompt complaint resolution contribute positively to customer satisfaction and loyalty. Balinado et al. (2021) found that service quality dimensions significantly affect customer satisfaction in automotive after-sales services. Chawla and Singh (2022) reported that supportive after-sales services improve customer satisfaction and strengthen customer relationships.

Gupta and Raman (2022) highlighted that positive after-sales experiences enhance trust and customer evaluations.

Sheu et al. (2022) observed that service quality dimensions positively influence customer satisfaction and loyalty. More recently, Amro (2025) demonstrated that service quality and price perceptions significantly contribute to customer engagement and loyalty within the automotive sector. These findings suggest that effective after-sales service and maintenance support positively influence customer satisfaction among electric vehicle users. Accordingly, the following hypothesis is proposed:

**H13:** After-Sales Service and Maintenance Support has a significant effect on Customer Satisfaction.

### Customer Satisfaction

Customer satisfaction represents the extent to which consumers perceive that products and services meet or exceed their expectations. Satisfied customers are more likely to exhibit loyalty, positive word-of-mouth behavior, and repurchase intentions. Uzir et al. (2021) found that

service quality, perceived value, and trust significantly influence customer satisfaction. Goic et al. (2021) emphasized that customer satisfaction contributes to the development of long-term relationships and customer retention.

Manyanga et al. (2022) reported that customer experience positively affects satisfaction and loyalty intentions. Molinillo et al. (2022) found that positive retail experiences enhance customer loyalty through customer satisfaction. García-Salirrosas et al. (2022) highlighted the role of perceived value and customer experiences in determining satisfaction among consumers in developing countries. Phan Thi Hang et al. (2024) also established a positive relationship between service quality, customer satisfaction, and loyalty. Therefore, customer satisfaction serves as an important outcome variable in understanding consumer experiences and sustainable growth in the electric two-wheeler market.

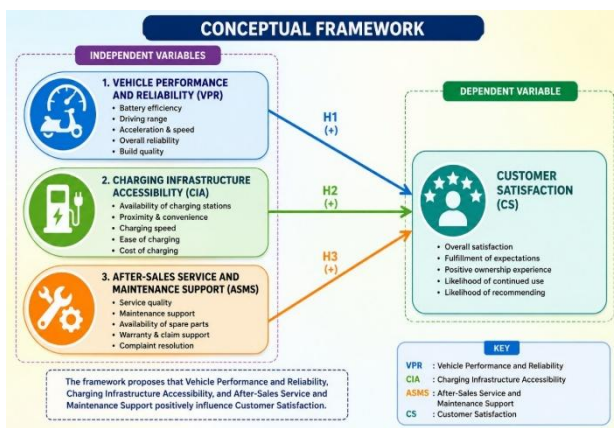
Author(s) & Year	Variables/Focus	Major Findings	Implications
Dua et al. (2021)	EV adoption, vehicle performance	Performance and reliability influence user experience and adoption intentions.	Technical attributes are critical for EV satisfaction.
Kumar et al. (2021)	Charging infrastructure	Accessibility of charging infrastructure promotes EV usage.	Charging facilities are essential for sustainable mobility.
Jia and Chen (2021)	EV ownership and charging accessibility	Convenience of charging affects ownership experience.	Charging infrastructure influences post-purchase perceptions.
Balinado et al. (2021)	Service quality and customer satisfaction	Quality after-sales service improves customer satisfaction.	Service support enhances customer experiences.
Uzir et al. (2021)	Service quality, trust and satisfaction	Service quality and trust positively influence customer satisfaction.	Customer satisfaction depends on perceived value and trust.
Goic et al. (2021)	Customer satisfaction and loyalty	Customer satisfaction strengthens long-term relationships.	Satisfaction contributes to customer retention.
Chawla and Singh (2022)	After-sales services	Supportive after-sales services improve satisfaction.	Service support creates positive customer perceptions.
Gupta and Raman (2022)	Service experiences and satisfaction	Positive service experiences enhance customer trust.	Maintenance support is important for customer retention.
Manyanga et al. (2022)	Customer experience and loyalty	Customer experience positively affects satisfaction and loyalty.	Satisfaction leads to favorable behavioral intentions.
Molinillo et al. (2022)	Customer experience and loyalty	Positive experiences improve customer loyalty.	Customer satisfaction acts as a mediator of loyalty.
García-Salirrosas et al. (2022)	Purchase experience and satisfaction	Perceived value influences customer satisfaction.	Value perception affects post-purchase behavior.
Cruz-Jesus et al. (2023)	EV satisfaction and continuance intention	Functional benefits significantly influence satisfaction.	Vehicle performance affects continued usage.

Zhao et al. (2023)	User satisfaction in EV segments	Reliability improvements enhance customer satisfaction.	Product quality is crucial for user satisfaction.
Liang et al. (2024)	Consumer satisfaction and online reviews	Battery performance and driving quality are major determinants of satisfaction.	Performance factors affect customer experiences.
Rehman et al. (2024)	EV adoption and satisfaction	Customer satisfaction contributes to continued adoption.	Satisfaction supports sustainable mobility.
Rempel et al. (2024)	Charging infrastructure reliability	Reliable charging stations improve customer confidence.	Charging infrastructure affects user satisfaction.
Phan Thi Hang et al. (2024)	Service quality and loyalty	Service quality positively affects satisfaction and loyalty.	Satisfaction contributes to customer retention.
Feng et al. (2025)	EV repurchase intention and satisfaction	Vehicle performance strongly affects repurchase intentions.	Performance remains the strongest predictor.
Amro (2025)	Service quality and customer engagement	Service quality enhances customer loyalty.	After-sales support improves long-term relationships.
Mugova (2025)	Customer satisfaction and loyalty	Satisfaction plays a mediating role in customer loyalty.	Customer satisfaction drives sustainable customer relationships.

### Research Gap

Although previous studies have extensively examined electric vehicle adoption, purchase intentions, and sustainable mobility, limited attention has been devoted to customer satisfaction with electric two-wheelers, particularly in emerging markets. Most studies have focused primarily on adoption behavior and environmental concerns rather than post-purchase experiences. Moreover, empirical evidence regarding the combined influence of Vehicle Performance and Reliability, Charging Infrastructure Accessibility, and After-Sales Service and Maintenance Support on Customer Satisfaction remains scarce. Furthermore, studies focusing on younger and working populations, particularly college-going students and office-going individuals, are relatively limited. Therefore, the present study attempts to bridge this gap by investigating the determinants of customer satisfaction with electric two-wheelers in the context of emerging markets.

Figure 1. Conceptual Framework



### 3. Research Methodology

#### 3.1 Research Design and Sample

The present study adopts a quantitative and descriptive research design to examine the determinants of customer satisfaction with electric two-wheelers in emerging markets. A cross-sectional survey approach was employed to collect primary data from electric two-wheeler users. The target respondents comprised college-going students and office-going individuals, including private and government employees, who regularly use electric two-wheelers for commuting purposes.

A purposive sampling technique was adopted to ensure that respondents possessed adequate experience with electric two-wheelers. A total of 290 valid responses were collected and used for the analysis. The sample consisted of 170 college-going students, 90 private employees, and 30 government employees. The sample size was considered sufficient for conducting multiple regression analysis and hypothesis testing.

#### 3.2 Instrument Development and Measurement

Primary data were collected through a structured questionnaire administered through both online and offline modes. The questionnaire consisted of demographic information and statements relating to the study variables. A five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) was used to measure respondents' perceptions.

The study incorporated three independent variables, namely Vehicle Performance and Reliability (VPR), Charging Infrastructure Accessibility (CIA), and After-Sales Service and Maintenance Support (ASMS), along with Customer Satisfaction (CS) as the dependent

variable. A total of 25 items were included in the questionnaire. Vehicle Performance and Reliability was measured through seven items, Charging Infrastructure Accessibility through six items, After-Sales Service and Maintenance Support through five items, and Customer Satisfaction through seven items.

### 3.3 Research Objectives and Hypotheses

Examine the impact of Vehicle Performance and Reliability on Customer Satisfaction.

Investigate the influence of Charging Infrastructure Accessibility on Customer Satisfaction.

Analyze the effect of After-Sales Service and Maintenance Support on Customer Satisfaction.

The present study aims to examine the influence of Vehicle Performance and Reliability, Charging Infrastructure Accessibility, and After-Sales Service and Maintenance Support on Customer Satisfaction among electric two-wheeler users. Accordingly, the following hypotheses were formulated:

**H01:** Vehicle Performance and Reliability has no significant effect on Customer Satisfaction.

**H11:** Vehicle Performance and Reliability has a significant effect on Customer Satisfaction.

**H02:** Charging Infrastructure Accessibility has no significant effect on Customer Satisfaction.

**H12:** Charging Infrastructure Accessibility has a significant effect on Customer Satisfaction.

**H03:** After-Sales Service and Maintenance Support has no significant effect on Customer Satisfaction.

**H13:** After-Sales Service and Maintenance Support has a significant effect on Customer Satisfaction.

### 3.4 Analytical Framework

The collected data were analyzed using Statistical Package for Social Sciences (SPSS) Version 26. Reliability analysis using Cronbach's Alpha was performed to assess the internal consistency of the measurement scales. Descriptive statistics were employed to summarize respondents' perceptions, while Pearson correlation analysis was used to examine the relationships among the variables. Multiple regression analysis was conducted to determine the impact of Vehicle Performance and Reliability, Charging Infrastructure Accessibility, and After-Sales Service and Maintenance Support on Customer Satisfaction.

The proposed regression model is represented as follows:

$$[CS = \beta_0 + \beta_1(VPR) + \beta_2(CIA) + \beta_3(ASMS) + \varepsilon]$$

where:

**CS** = Customer Satisfaction

**VPR** = Vehicle Performance and Reliability

**CIA** = Charging Infrastructure Accessibility

**ASMS** = After-Sales Service and Maintenance Support

$\beta_0$  = Constant

$\beta_1, \beta_2, \beta_3$  = Regression Coefficients

$\varepsilon$  = Error Term

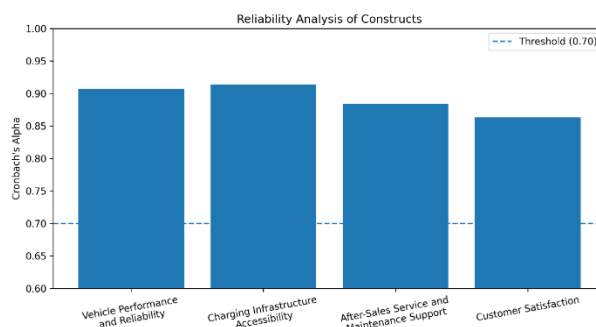
## 4. Results and Discussion

### 4.1 Reliability Analysis

Reliability analysis was conducted to assess the internal consistency of the constructs using Cronbach's Alpha coefficient. The results are presented in Table 1.

**Table 1. Reliability Analysis**

Constructs	Number of Items	Cronbach's Alpha
Vehicle Performance and Reliability	7	0.907
Charging Infrastructure Accessibility	6	0.914
After-Sales Service and Maintenance Support	5	0.884
Customer Satisfaction	7	0.863



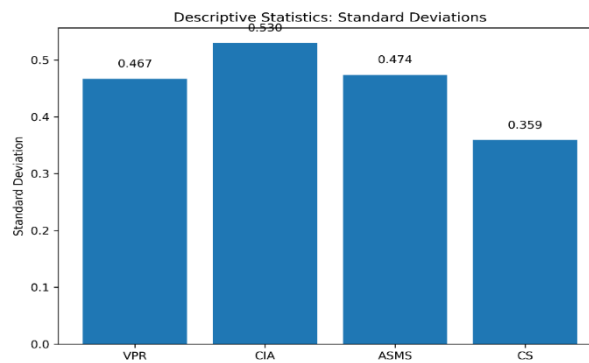
The Cronbach's Alpha values ranged from 0.863 to 0.914, exceeding the recommended threshold value of 0.70. Therefore, the measurement scales exhibited satisfactory internal consistency and reliability.

Descriptive statistics were employed to examine the central tendency and dispersion of the study variables, while Pearson correlation analysis was performed to assess the relationships among the constructs. The results are presented in Tables 2 and 3.

#### 4.2 Descriptive Statistics and Correlation Analysis

**Table 2. Descriptive Statistics**

Variables	Mean	Standard Deviation
Vehicle Performance and Reliability (VPR)	4.004	0.467
Charging Infrastructure Accessibility (CIA)	3.842	0.530
After-Sales Service and Maintenance Support (ASMS)	3.902	0.474
Customer Satisfaction (CS)	3.936	0.359

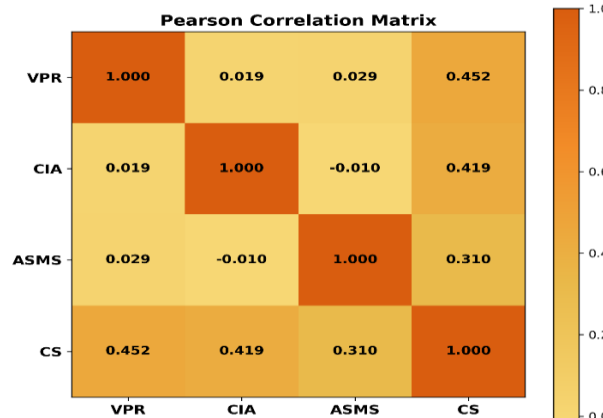


The descriptive statistics indicate that respondents exhibited favorable perceptions towards electric two-wheelers. Vehicle Performance and Reliability recorded the highest mean score (Mean = 4.004), followed by Customer Satisfaction (Mean = 3.936), After-Sales

Service and Maintenance Support (Mean = 3.902), and Charging Infrastructure Accessibility (Mean = 3.842). The relatively low standard deviation values indicate consistency in respondents' opinions.

**Table 3. Pearson Correlation Matrix**

Variables	VPR	CIA	ASMS	CS
VPR	1.000			
CIA	0.019	1.000		
ASMS	0.029	-0.010	1.000	
CS	0.452**	0.419**	0.310**	1.000



**Note: Correlation is significant at  $p < 0.01$ .**

The correlation analysis reveals positive associations between all independent variables and Customer Satisfaction. Vehicle Performance and Reliability exhibited the strongest positive correlation with Customer Satisfaction ( $r = 0.452$ ), followed by Charging Infrastructure Accessibility ( $r = 0.419$ ) and After-Sales Service and Maintenance Support ( $r = 0.310$ ). These findings indicate that improvements in vehicle performance, charging infrastructure, and service support are associated with higher levels of customer satisfaction.

### 4.3 Regression Analysis and Hypothesis Testing

Multiple regression analysis was performed to examine the influence of Vehicle Performance and Reliability, Charging Infrastructure Accessibility, and After-Sales Service and Maintenance Support on Customer Satisfaction. The results are presented in Tables 4, 5, and 6.

**Table 4. Model Summary**

R	R Square	Adjusted R Square
0.681	0.464	0.458

The model explains approximately 46.4% of the variation in Customer Satisfaction, indicating a satisfactory explanatory power.

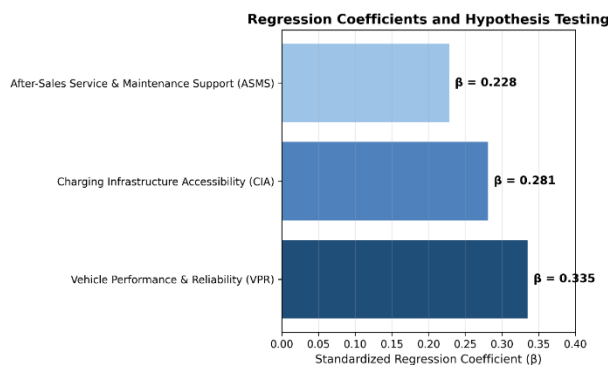
**Table 5. ANOVA Results**

Source	F-value	Significance
Regression Model	82.413	0.000

The F-statistic is significant at the 1% level ( $p < 0.001$ ), indicating that the regression model is statistically significant and suitable for explaining Customer Satisfaction.

**Table 6. Regression Coefficients and Hypothesis Testing**

Variables	$\beta$	t-value	p-value	Decision
Constant	0.627	2.903	0.004	Significant
Vehicle Performance and Reliability (VPR)	0.335	7.624	0.000	H11 Supported
Charging Infrastructure Accessibility (CIA)	0.281	6.241	0.000	H12 Supported
After-Sales Service and Maintenance Support (ASMS)	0.228	6.003	0.000	H13 Supported



The regression results indicate that Vehicle Performance and Reliability exerts the strongest influence on Customer Satisfaction ( $\beta = 0.335$ ,  $p < 0.001$ ), followed by Charging Infrastructure Accessibility ( $\beta = 0.281$ ,  $p < 0.001$ ) and After-Sales Service and Maintenance Support ( $\beta = 0.228$ ,  $p < 0.001$ ). Therefore, all alternative hypotheses (H11, H12, and H13) are accepted, while the corresponding null hypotheses are rejected.

### 4.4 Discussion of Findings

The findings of the study reveal that Vehicle Performance and Reliability is the most influential determinant of Customer Satisfaction among electric two-wheeler users. This result is consistent with the studies of Dua et al. (2021), Cruz-Jesus et al. (2023), Liang et al. (2024), and Zhao et al. (2023), which emphasized the importance of battery performance, driving range, and operational reliability in enhancing customer experiences.

Charging Infrastructure Accessibility was also found to significantly influence Customer Satisfaction. This finding corroborates the studies of Kumar et al. (2021), Jia and Chen (2021), and Rempel et al. (2024), which reported that the availability and reliability of charging facilities reduce range anxiety and improve customer confidence.

Furthermore, After-Sales Service and Maintenance Support exhibited a positive and significant impact on Customer Satisfaction. The findings are in line with those of Balinado et al. (2021), Chawla and Singh (2022), and Gupta and Raman (2022), which highlighted the importance of service quality and maintenance support in improving customer experiences and loyalty.

Overall, the results indicate that customer satisfaction with electric two-wheelers is significantly influenced by technical performance, charging infrastructure, and post-purchase service quality. These findings provide empirical evidence regarding the determinants of customer satisfaction in emerging markets and contribute to the growing literature on sustainable mobility.

### 5. Conclusion and Implications

The present study examined the determinants of customer satisfaction with electric two-wheelers in emerging markets by investigating the influence of Vehicle Performance and Reliability, Charging Infrastructure Accessibility, and After-Sales Service and Maintenance Support. Using primary data collected from 290 respondents comprising college-going students and office-going individuals, the study employed reliability analysis, descriptive statistics, Pearson correlation, and multiple regression techniques to test the proposed relationships.

The findings revealed that all three independent variables positively and significantly influence Customer Satisfaction. Among the determinants, Vehicle Performance and Reliability emerged as the strongest

predictor, followed by Charging Infrastructure Accessibility and After-Sales Service and Maintenance Support. The results indicate that improvements in battery performance, driving quality, charging convenience, and service support significantly enhance consumers' overall satisfaction with electric two-wheelers.

The study contributes to the existing literature by providing empirical evidence from an emerging market perspective and extends the understanding of customer satisfaction in the electric mobility sector. The findings suggest that customer satisfaction is not merely influenced by technological attributes but also by supporting infrastructure and post-purchase services, which collectively determine consumers' experiences and long-term acceptance of electric two-wheelers.

### **Theoretical Implications**

The present study contributes to the growing body of literature on electric mobility and customer satisfaction by examining the combined influence of Vehicle Performance and Reliability, Charging Infrastructure Accessibility, and After-Sales Service and Maintenance Support. Unlike previous studies that primarily focused on adoption intentions, the present study emphasizes post-purchase experiences and customer satisfaction among electric two-wheeler users. Furthermore, the study provides empirical evidence from an emerging market context and enriches the literature concerning sustainable mobility and consumer behavior.

### **Managerial Implications**

The findings of the study offer several implications for electric vehicle manufacturers and service providers. First, manufacturers should prioritize improving battery performance, driving range, and vehicle reliability to enhance customer satisfaction. Second, companies and charging service providers should focus on expanding charging infrastructure and ensuring the reliability of charging facilities to minimize range anxiety and increase consumer confidence. Third, automobile companies should strengthen their after-sales service networks by ensuring timely maintenance, efficient complaint resolution, and adequate availability of spare parts. These initiatives can improve customer experiences and foster long-term relationships with consumers.

### **Policy Implications**

The findings also provide valuable implications for policymakers. Government agencies should continue promoting electric mobility through supportive policies and investments in charging infrastructure. Public-private partnerships may facilitate the development of accessible charging networks across urban and semi-urban areas. Furthermore, regulatory authorities should encourage manufacturers to establish efficient after-sales service facilities and improve service quality standards. Such initiatives will enhance customer confidence and contribute to the sustainable growth of the electric vehicle ecosystem.

### **6. Limitations and Future Research Directions**

Despite its contributions, the study has certain limitations. First, the study considered only three determinants of

customer satisfaction, whereas other factors such as environmental concern, perceived value, government incentives, and brand image may also influence customer experiences. Second, the study focused on 290 respondents comprising college-going students and office-going individuals, which may limit the generalizability of the findings. Third, the cross-sectional nature of the study restricts the examination of changes in customer perceptions over time.

Future research may incorporate additional variables and larger sample sizes to obtain more comprehensive insights. Comparative studies between rural and urban consumers and between different emerging economies may also provide valuable findings. Furthermore, advanced analytical techniques such as Structural Equation Modeling (SEM) and mediation or moderation analyses may be employed to develop more comprehensive theoretical frameworks.

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### **Conflict of Interest**

The authors declare that there is no conflict of interest regarding the publication of this research.

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### **Data Availability Statement**

The data supporting the findings of this study are available from the corresponding author upon reasonable request..

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