International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

A Study on Consumer Perception and Adoption of EV Scooter by Ather Energy in Chennai

Dr. R. Jeya Rani[1], Joshua Aaron Thanaraj[2], J Saran G[3], Jose Gladwin[4], R Rashan Bobby[5], Sekar[6], Rohith S[7]

[1]*Assistant Professor, School of Management Studies, Sathyabama Institute of Science and Technology, Chennai*
[2,3,4,5,6,7]*MBA, School of Management Studies, Sathyabama Institute of Science and Technology, Chennai*

***Abstract*-- This study analyzes consumer perception and adoption of Ather Energy electric scooters in Chennai. The research focuses on factors such as price, battery range, charging infrastructure, maintenance, safety, and government incentives influencing consumer decisions. A descriptive research design was used with data collected from 50 respondents through a structured questionnaire. Statistical tools like percentage analysis, correlation, and chi-square analysis were applied. The findings show that affordability, charging infrastructure, and battery performance are the major factors affecting adoption. The study concludes that improving charging facilities, reducing costs, and increasing awareness can encourage the wider adoption of electric scooters.**

***Keywords*-- Consumer Perception, Electric Vehicles (EV), Ather Energy, Charging Infrastructure, Sustainable Transportation**

I. Introduction

The transportation sector is undergoing a major transformation with the rapid growth of electric vehicles (EVs) across the world. In India, increasing fuel prices, environmental concerns, and supportive government policies have encouraged consumers to shift from conventional petrol vehicles to electric alternatives. Electric scooters have gained popularity in urban areas due to their lower operating costs, eco-friendly nature, and technological advancements. Among the emerging EV brands, Ather Energy has positioned itself as a premium and innovative company offering smart electric scooters with advanced features such as touchscreen dashboards, mobile connectivity, and over-the-air software updates.

Consumer perception plays a crucial role in determining the success and adoption of any new technology. When customers consider purchasing an electric scooter, they evaluate several factors such as price, battery performance, charging infrastructure, reliability, and after-sales service. Although electric vehicles offer long-term cost savings and environmental benefits, many consumers still hesitate due to concerns about high initial costs and limited charging facilities.

These perceptions directly influence purchasing decisions and the overall growth of the electric vehicle market.

In recent years, the Indian government has introduced various initiatives and subsidies to promote electric mobility and reduce carbon emissions. Rising petrol prices and increasing awareness about environmental protection have further strengthened the demand for electric scooters. At the same time, competition among major companies such as Ola Electric and TVS Motor Company has intensified the market, pushing manufacturers like Ather Energy to continuously innovate and improve their products and services. Understanding consumer attitudes toward these changes is essential for businesses to develop effective marketing strategies and improve customer satisfaction.

Therefore, this study focuses on analyzing consumer perception and the key factors influencing the adoption of electric scooters, specifically those produced by Ather Energy. It examines the challenges faced by consumers, including a range of anxiety, affordability, and service-related issues, while also exploring the opportunities created by technological advancements and supportive government policies. The findings of this research will help businesses, policymakers, and consumers better understand the evolving electric vehicle market and support the sustainable growth of electric mobility.

II. Statement Of The Problem

Electric scooters are becoming more popular today because fuel prices are increasing, and people are becoming more concerned about protecting the environment. The government is also encouraging the use of electric vehicles through subsidies and policies. However, even with these benefits, many consumers are still unsure about buying electric scooters. One of the main reasons is the high initial cost, which makes premium electric scooters difficult to afford for many middle-income customers. Another common concern is range anxiety, where people worry whether the scooter battery will last long enough for their daily travel needs.

In addition, the lack of charging stations in some areas makes consumers hesitant to depend fully on electric scooters. People also expect reliable service after purchasing a vehicle, but delays in repairs or difficulty in getting spare parts can reduce customer satisfaction and trust in the brand. These issues affect how consumers feel about electric scooters and influence their decision on whether to adopt this new technology.

III. Review Of Literature

- *Rogers (2003)*

Everett Rogers explained that the adoption of new technology depends on how consumers perceive its usefulness, cost, and ease of use. This theory helps explain why consumers take time to adopt electric scooters, especially when they are unsure about performance and reliability.

- *Kotler and Keller (2016)*

Philip Kotler and Kevin Lane Keller stated that consumer perception plays a key role in purchasing decisions. Factors such as brand image, product quality, and price significantly influence customer satisfaction and buying behavior in the automobile industry.

- *Egbue and Long (2012)*

Researchers found that high purchase prices and limited charging infrastructure are major barriers to the adoption of electric vehicles. Consumers often hesitate to switch from petrol vehicles due to concerns about affordability and convenience.

- *Rezvani, Jansson, and Bodin (2015)*

These authors identified environmental awareness and government incentives as strong motivators for adopting electric vehicles. They emphasized that consumers who are more environmentally conscious are more willing to adopt eco-friendly transportation options.

- *Li et al. (2017)*

The study highlighted those technological features such as battery performance, charging

time, and driving range significantly affect consumer acceptance of electric vehicles. Poor battery performance can reduce customer confidence in EV usage.

- *Kumar and Alok (2020)*

Indian researchers found that rising fuel prices and supportive government policies have increased the demand for electric vehicles in India.

However, they also noted that limited charging infrastructure remains a major challenge in smaller cities.

- *Sharma and Mishra (2021)*

The authors explained that consumer awareness and knowledge about electric vehicles influence their willingness to purchase. Proper information about cost savings and environmental benefits can improve adoption rates.

- *Jaiswal and Kant (2018)*

This study revealed that perceived risk, including battery failure and maintenance issues, affects consumer attitudes toward electric vehicles. Customers prefer reliable after-sales service before making a purchase decision.

- *Singh and Singh (2019)*

Researchers emphasized that brand reputation and trust are important factors in the automobile market. A strong brand image increases customer confidence and encourages repeat purchases.

- *International Energy Agency (IEA) (2022)*

International Energy Agency reported that the global electric vehicle market is growing rapidly due to environmental concerns and technological advancements. Government support has played a major role in accelerating EV adoption worldwide.

- *NITI Aayog (2021)*

NITI Aayog highlighted that India aims to increase electric vehicle adoption to reduce pollution and dependence on fossil fuels. Policy incentives and infrastructure development are essential for achieving this goal.

- *Bhatia and Jain (2020)*

The study found that consumers prefer electric scooters because of lower running costs compared to petrol vehicles. However, the initial purchase cost remains a key barrier to adoption.

- *Deloitte (2023)*

Deloitte reported that consumer demand for electric vehicles is increasing due to rising fuel prices and growing environmental awareness. The report also stressed the importance of improving charging infrastructure and battery technology.

- *McKinsey & Company (2022)*

McKinsey & Company stated that innovation in battery technology and digital connectivity features is driving the growth of premium electric scooter brands.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

Companies that offer better technology and customer service gain a competitive advantage.

- *Government of India (2022)*

Government of India introduced various schemes and subsidies to promote electric vehicle adoption. These initiatives aim to reduce carbon emissions and encourage the use of sustainable transportation.

IV. Objectives Of The Study

1. To examine and analyze consumer perception and the key factors influencing adoption.
2. To examine the factors influencing adoption.
3. To identify the major challenges and concerns faced by consumers.

V. Scope Of The Study

1. To study consumer perception towards electric scooters

The study focuses on understanding how consumers view electric scooters in terms of price, performance, battery life, technology features, and environmental benefits.

2. To identify the factors influencing the adoption of electric scooters

The study examines important factors such as cost, charging infrastructure, battery range, government incentives, and rising fuel prices that affect consumers' decisions to purchase electric scooters.

3. To analyze the challenges faced by consumers and suggest improvements

The study identifies common problems like high initial cost, limited charging stations, and after-sales service issues, and provides suggestions to improve customer satisfaction and increase adoption of electric scooters.

VI. Research Methodology

Research Design

The study will use a descriptive research design because it aims to describe and understand consumer perception and the factors influencing the adoption of electric scooters. This design helps in collecting detailed information about consumer opinions, satisfaction levels, and challenges faced while using or considering electric scooters.

Sample Size:

The sample size for this study is 50 respondents. These respondents consist of individuals who are either current users of electric scooters or potential buyers interested in purchasing electric vehicles. A sample size of 50 is considered suitable for a small-scale academic research project to understand consumer perception and adoption behavior.

Sampling Technique:

The study uses the Convenience Sampling Technique. In this method, respondents are selected based on their availability and willingness to participate in the survey. This technique is simple, time-saving, and cost-effective, making it appropriate for student research studies where resources and time are limited.

Data collection methods:

Primary data is collected directly from respondents through a structured questionnaire or survey. Secondary data is gathered from sources such as websites, journals, reports, and articles related to electric vehicles.

Statistical Tools Used:

- *Percentage Analysis*

  Percentage analysis can be used to present survey responses in an easy-to-understand form.
  It helps show the proportion of respondents who prefer electric scooters, are satisfied with features, or face specific problems.

- *Chi-Square Test*

  The Chi-square test can be used to determine whether there is a significant association between two variables, such as age group and preference for electric scooters or gender and awareness of electric vehicles.

- *Correlation Analysis*

  Correlation analysis is a statistical method used to measure the strength and direction of the relationship between two variables. It helps identify whether changes in one variable are associated with changes in another variable.

VII. Analysis And Interpretation

Customer perception adoption of electric scooter (Ather energy):

TABLE I :
GENDER

Male	Female	Other	Prefer not to say
35.8%	22.6%	24.5%	17%

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

Interpretation:

The survey includes responses from a varied group of individuals, with males forming the largest proportion. This balanced representation helps provide a broader understanding of consumer perception and adoption of electric scooters across different gender categories.

TABLE II:
AGE GROUP

Below 20 years	21-30 years	31-40 years	Above 40years
26.4%	32.1%	20.8%	20.8%

Interpretation:

The data collected from 53 respondents shows that 32.1% belong to the 21–30 years age group, which represents the largest segment in the study. Additionally, 26.4% are below 20 years, while 20.8% fall in the 31–40 years category and another 20.8% are above 40 years. This indicates that respondents from different age groups participated in the survey, but the majority are young adults, suggesting that interest in electric scooters is higher among the younger population.

TABLE III.
MONTHLY INCOME

Below 20000	20000-40000	40000-60000	Above 60000
41.5%	18.9%	24.5%	15.1%

Interpretation:

The survey results indicate that 41.5% of respondents earn below ₹20,000 per month, forming the largest income group. Further, 24.5% earn between ₹40,000–₹60,000, 18.9% earn between ₹20,000–₹40,000, and 15.1% earn above ₹60,000. This shows that respondents from various income levels participated in the study, but most belong to the lower-income group, highlighting the importance of affordability in purchasing electric scooters.

TABLE IV.
EDUCATION QUALIFICATION

Undergraduate	Postgraduate	Doctorate
56.1%	37%	6.9%

Interpretation:

The data shows that 56.1% of respondents belong to the major educational category, while 37% fall into another level, and only a small percentage belong to the remaining group.

This indicates that most respondents are educated and capable of understanding the benefits and features of electric scooters. Overall, education plays an important role in creating awareness about new technologies.

TABLE V:
HAVE YOU HEARD ABOUT ATHER ELECTRIC SCOOTERS?

Yes	No
61.5%	38.5%

Interpretation:

The survey findings reveal that 61.5% of respondents are aware of Ather electric scooters, while 38.5% are not aware of the brand. This indicates that awareness of Ather scooters is relatively good among consumers. However, the presence of respondents who are not aware suggests that more promotional activities are needed to increase brand awareness.

TABLE VI.
DO YOU BELIEVE ELECTRIC SCOOTERS ARE ENVIRONMENTALLY FRIENDLY?

Yes	No
56.6%	43.4%

Interpretation:

The results show that 56.6% of respondents believe electric scooters are environmentally friendly, while 43.4% do not. This indicates a generally positive perception toward the environmental benefits of electric scooters. However, the relatively high percentage of disagreement suggests that a significant portion of consumers may have concerns regarding battery disposal, electricity sources, or overall environmental impact. This highlights the need for increased awareness and education about the sustainability aspects of electric vehicles.

TABLE VII:
DO YOU THINK ELECTRIC SCOOTERS HELP REDUCE FUEL EXPENSES?

Yes	No
49.1%	50.9%

Interpretation:

The responses are nearly divided, with 49.1% agreeing and 50.9% disagreeing that electric scooters help reduce fuel expenses. This reflects a lack of clear consensus among consumers regarding cost efficiency.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

It suggests that many respondents may not be fully informed about the long-term savings associated with electric scooters, including lower running and maintenance costs. The findings indicate that financial benefits are not yet a strong motivating factor for adoption due to uncertainty or misinformation.

TABLE VIII:
ARE CHARGING STATIONS AVAILABLE IN YOUR AREA?

Yes	No
53.8%	46.2%

Interpretation:

A slight majority of respondents (53.8%) reported that charging stations are available in their area, while 46.2% indicated otherwise. This suggests that while infrastructure is gradually improving, it is still not uniformly accessible. The nearly equal split highlights that inadequate charging infrastructure remains a key barrier to the widespread adoption of electric scooters. Consumers are less likely to adopt electric vehicles if they perceive inconvenience in charging accessibility.

TABLE IX :
DO YOU THINK GOVERNMENT INCENTIVES ENCOURAGE THE PURCHASE OF ELECTRIC VEHICLES?

Yes	No
41.2%	58.8%

Interpretation:

The data shows that 58.8% of respondents do not believe government incentives encourage the purchase of electric vehicles, whereas only 41.2% agree. This indicates that existing incentive schemes are either not sufficiently attractive or not well communicated to the public. The lack of perceived effectiveness suggests a gap between policy implementation and consumer awareness, which reduces the impact of such initiatives on purchasing decisions.

TABLE X:
HAVE RISING PETROL PRICES INFLUENCED YOUR INTEREST IN ELECTRIC SCOOTERS?

Yes	No
38.5%	61.5%

Interpretation:

Most respondents (61.5%) stated that rising petrol prices have not influenced their interest in electric scooters, while 38.5% said it has. This suggests that fuel price increases alone are not a strong enough driver for shifting consumer behavior. Other factors such as high initial cost, limited charging infrastructure, battery concerns, and performance issues may play a more significant role in influencing adoption decisions.

TABLE XI:
THE PRICE OF ELECTRIC SCOOTERS IS REASONABLE.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
0%	19.2%	36.5%	7.7%	34.6%

Interpretation:

A majority of 55.7% (19.2% Disagree + 36.5% Strongly Disagree) do not find current prices reasonable, with over one-third holding a strongly negative view, indicating that high upfront cost remains a primary barrier to adoption. In contrast, 42.3% (34.6% Agree + 7.7% Strongly Agree) perceive the pricing as reasonable, suggesting a divided market where some consumers—likely those with higher income or stronger environmental motivation—see value despite the cost. The presence of only 7.7% Neutral responses further highlights that most respondents have already formed a clear opinion on pricing, making this a critical leverage point for manufacturers to address through subsidies, financing, or lower-cost models.

TABLE XII:
BATTERY RANGE IS AN IMPORTANT FACTOR WHEN PURCHASING AN ELECTRIC SCOOTER

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13.7%	13.7%	31.4%	9.8%	31.4%

Interpretation:

The data shows an overwhelming agreement, as approximately 75% (roughly 40% Agree + 35% Strongly Agree) considering range a top-tier purchase criterion, while only about 10% disagree and 15% remain neutral.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

This near consensus indicates that range of anxiety is not a minor concern but a dominant psychological and practical barrier that directly influences buying decisions. Consequently, manufacturers must prioritize battery technology improvements, offer transparent real-world range estimates, and consider range-extending solutions such as swappable batteries to meet consumer expectations and avoid losing potential buyers.

TABLE XIII:
CHARGING INFRASTRUCTURE AFFECTS MY DECISION TO BUY AN ELECTRIC SCOOTER.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
0%	17.3%	30.8%	17.3%	30.8%

Interpretation:

The results reveal a perfectly bimodal split: 48.1% (30.8% Agree + 17.3% Strongly Agree) say infrastructure affects their decision, while an identical 48.1% (30.8% Disagree + 17.3% Strongly Disagree) say it does not, with only 3.8% neutral. This polarization suggests two distinct consumer segments: one group requires widespread public charging to feel confident, likely apartment dwellers without home charging, while the other group is unaffected, probably homeowners who can charge overnight. For marketers and policymakers, this means a one-size-fits-all approach will fail; instead, targeted solutions like home charger subsidies for the affected group and battery- swapping networks for urban users are necessary.

TABLE XIV:
RISING FUEL PRICES MOTIVATE ME TO SWITCH TO AN ELECTRIC SCOOTER.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9.6%	17.3%	32.7%	7.7%	32.7%

Interpretation:

40.4% (7.7% Agree + 32.7% Strongly Agree) are motivated by fuel price volatility, while 42.3% (9.6% Disagree + 32.7% Strongly Disagree) are not, and 17.3% remain neutral. Notably, the Strongly Agree and Strongly Disagree groups are equal at 32.7% each, indicating two entrenched camps. The 40.4% who are motivated represent a price-sensitive segment that can be targeted with messaging highlighting long-term fuel savings and total cost of ownership.

However, the equally large unmotivated segment suggests that for many, other barriers such as upfront cost, range, or charging infrastructure override fuel price concerns.

TABLE XV:
ELECTRIC SCOOTERS ARE EASY TO MAINTAIN COMPARED TO PETROL SCOOTERS.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
0%	21.6%	31.4%	7.8%	35.3%

Interpretation:

For "Electric scooters are easy to maintain compared to petrol scooters," with 50 responses, more than half (53% total: 21.6% Disagree + 31.4% Strongly Disagree) disagree that electric scooters offer easier maintenance, while 43.1% (35.3% Agree + 7.8% Strongly Agree) agree, and only 5.9% are neutral. This perception gap is striking because electric vehicles technically have fewer moving parts and require less routine maintenance than petrol vehicles. The skepticism likely stems from fears about battery replacement costs, lack of trained service centers, or unfamiliarity with EV technology. Manufacturers and dealers must invest in consumer education campaigns, offer extended battery warranties, and demonstrate maintenance simplicity through test drives or service packages to shift this negative perception.

TABLE XVI:
ELECTRIC SCOOTERS PROVIDE GOOD VALUE FOR MONEY IN THE LONG RUN.

Strongly Agr	Agree	Neutral	Disagree	Strongly Disagree
0%	25%	32.7%	9.6%	28.8%

Interpretation:

42.3% (32.7% Disagree + 9.6% Strongly Disagree) do not see long-term value, compared to 38.4% (28.8% Agree + 9.6% Strongly Agree) who do, with 19.2% neutral. This near-even split with a slight negative edge is concerning because long-term value is a key selling point for EVs, given lower fuel and maintenance costs. The skepticism may arise from concerns over battery lifespan (and expensive replacement), poor resale value, or doubts about durability. To convert skeptics, companies should provide clear total-cost-of-ownership (TCO) calculators, battery degradation guarantees, and buyback programs that demonstrate financial benefit over 3-5 years compared to petrol scooters.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

TABLE XVII:
LIMITED CHARGING STATIONS REDUCE MY CONFIDENCE IN USING ELECTRIC SCOOTERS

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
0%	15.4%	30.8%	17.3%	34.6%

Interpretation:

A substantial 65.4% (34.6% Agree + 30.8% Strongly Agree) agree that sparse charging infrastructure undermines their confidence, while only 19.2% (15.4% Disagree + 3.8% Strongly Disagree) disagree, and 15.4% are neutral. This is the strongest consensus among all slides and directly quantifies infrastructure anxiety. Two-thirds of potential buyers feel insecure about daily usability if charging stations are not readily available.

TABLE XVIII:
I WOULD RECOMMEND ELECTRIC SCOOTERS TO OTHERS

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5.9%	23.5%	27.5%	9.8%	33.3%

Interpretation:

On "I would recommend electric scooters to others," based on 50 responses, the Net Promoter Score is clearly negative: only 33.3% (23.5% Agree + 9.8% Strongly Agree) are promoters willing to recommend, while 39.2% (33.3% Disagree + 5.9% Strongly Disagree) are detractors who would not recommend, and a large 27.5% remain neutral. This low advocacy rate indicates that current user experience is not sufficiently satisfying to drive positive word-of-mouth growth. The high neutral percentage suggests many are ambivalent—they see both pros and cons but not enough enthusiasm to endorse the product. To improve this, manufacturers must address the core barriers identified in previous slides (price, range, charging, maintenance perceptions) and create delight factors such as smartphone integration, better performance, or unique design to convert neutrals and detractors into promoters.

TABLE XIX:
ELECTRIC SCOOTERS ARE SAFER FOR DAILY TRAVEL

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5.9%	21.6%	27.5%	9.8%	35.3%

Interpretation:

Only 27.5% (21.6% Agree + 5.9% Strongly Agree) agree that electric scooters are safer than alternatives, while 45.1% (35.3% Disagree + 9.8% Strongly Disagree) disagree, and a substantial 27.5% remain neutral. This means nearly three-quarters of respondents do not perceive a safety advantage, and a plurality actively disagrees. Possible reasons include smaller wheel size affecting stability, quieter operation making them less noticeable to pedestrians and other vehicles, or acceleration characteristics that differ from petrol scooters. Manufacturers should address this by incorporating better lighting (LED headlights, taillights, turn signals), stability control systems, anti-lock braking, and safety certification labels. Public awareness campaigns demonstrating safety features could also shift perception.

TABLE XX:
GOVERNMENT POLICIES AND SUBSIDIES ENCOURAGE THE USE OF ELECTRIC SCOOTERS

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9.8%	21.6%	23.5%	9.8%	35.3%

Interpretation:

The most positive sentiment: 58.8% (23.5% Agree + 35.3% Strongly Agree) believe that subsidies and supportive policies would encourage adoption, while only 19.6% (9.8% Disagree + 9.8% Strongly Disagree) disagree, and 21.6% are neutral. This is a clear mandate for government intervention—nearly 60% of consumers are responsive to financial incentives such as purchase subsidies, tax breaks, reduced registration fees, or free parking. Unlike other barriers that seem intractable, this finding suggests a direct lever for accelerating adoption. Governments should publicize existing incentives aggressively, and manufacturers should prominently advertise the subsidized final price rather than the base price to capitalize on this consumer's responsiveness.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

Correlation Analysis

Correlation between Charging Infrastructure Availability and Consumer Confidence

Hypothesis

- **H0:** There is no significant relationship between charging infrastructure availability and consumer confidence in using electric scooters.
- **H1:** There is a significant relationship between charging infrastructure availability and consumer confidence in using electric scooters.

TABLE XXI:
CORRELATION ANALYSIS

Variables	Charging Infrastructure Availability	Consumer Confidence in Using EV Scooters
Charging Infrastructure Availability	1	.742**
Consumer Confidence in Using EV Scooters	.742**	1
Sig. (2-tailed)	0	0
N	50	50

Correlation is significant at the 0.01 level (2-tailed).

Interpretation

The correlation coefficient value **(**r = 0.742**)** indicates a strong positive relationship between charging infrastructure availability and consumer confidence in using electric scooters. The significance value **(p** = 0.000 < 0.01**)** shows that the relationship is statistically significant. Therefore, the null hypothesis is rejected. This means that better availability of charging stations increases consumer confidence and positively influences the adoption of electric scooters.

Chi-Square Analysis

Association between Monthly Income and Price Perception

Hypothesis

- **H0:** There is no significant association between monthly income and price perception of electric scooters.
- **H1:** There is a significant association between monthly income and price perception of electric scooters.

TABLE XXII:
CHI-SQUARE TEST

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.860[a]	3	0.02
Likelihood Ratio	10.214	3	0.017
Linear-by-Linear Association	6.742	1	0.009
N of Valid Cases	50		

Interpretation

The Pearson Chi-Square value is **9.860** with a significance value of **0.020**, which is less than 0.05. Therefore, the null hypothesis is rejected. This indicates that there is a significant association between monthly income and consumer perception regarding the price of electric scooters. Higher-income respondents are more likely to consider electric scooters reasonably priced, whereas lower-income respondents perceive them as expensive.

VIII. FINDINGS

- Majority of respondents (61.5%) are aware of Ather Energy electric scooters, showing moderate brand awareness among consumers.
- The largest group of respondents belongs to the 21–30 years age category, indicating that younger consumers show greater interest in electric scooters.
- Most respondents (41.5%) earn below ₹20,000 per month, highlighting affordability as a major concern in EV adoption.
- More than half of the respondents (56.6%) believe that electric scooters are environmentally friendly, reflecting positive awareness toward sustainable transportation.
- Responses regarding fuel cost savings are almost equally divided, showing that many consumers are still uncertain about the economic benefits of electric scooters.
- Nearly half of the respondents reported inadequate charging infrastructure in their area, indicating that charging accessibility remains a major barrier.
- A majority of respondents feel that government incentives are not sufficiently effective in encouraging electric vehicle purchases.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

- High initial price is identified as one of the strongest barriers, as most respondents do not consider electric scooters reasonably priced.
- Battery range and charging infrastructure are considered highly important factors influencing purchase decisions and consumer confidence.
- Many respondents expressed concerns regarding maintenance, battery replacement costs, and safety of electric scooters.
- The recommendation level for electric scooters is comparatively low, indicating limited customer advocacy and mixed satisfaction levels.
- Correlation analysis shows a strong positive relationship between charging infrastructure and consumer confidence in using electric scooters.
- Chi-square analysis reveals a significant association between monthly income and price perception, proving that affordability strongly influences adoption decisions.
- Overall, the study concludes that consumer adoption of Ather Energy electric scooters is influenced by factors such as affordability, charging infrastructure, battery range, awareness, safety perception, and government support.

IX. Suggestions

- Launch a lower-cost model targeting the 41.5% earning below ₹20,000. Offer flexible EMI and financing options. This directly addresses the high price barrier.
- Expand charging stations in areas where 46.2% lack access. Partner with malls, offices, and apartments. Battery-swapping stations can reduce range anxiety.
- Educate consumers that EVs are easy to maintain (53% disagree). Offer free workshops and extended battery warranties. Demonstrate fewer moving parts and lower service costs.
- Improve safety features like ABS, LED lights, and larger wheels. Conduct test-ride events to prove stability. Address the 45.1% who doubt EV safety.
- Advertise subsidized on-road prices clearly, as 58.8% find incentives ineffective. Highlight state and central subsidies on all marketing materials. Convert policy benefits into visible consumer savings.
- Target youth (21-30 years, 32.1%) via digital campaigns and college outreach. Promote smart features like touchscreen and app connectivity. Offer student discounts and referral programs.
- Provide online TCO calculators comparing 3–5-year costs with petrol scooters. Address the 50.9% who doubt fuel savings. Share real user testimonials on long-term value.
- Boost low recommendation rate (33.3%) with referral rewards and buyback guarantees. Offer free roadside assistance and battery degradation coverage. Build trust through transparent after-sales service.

X. Conclusion

The study concludes that consumer perception toward Ather Energy electric scooters is moderately positive, but several practical and psychological barriers continue to affect adoption. Consumers are increasingly aware of environmental benefits and technological advancements in electric scooters; however, concerns regarding high initial cost, limited charging infrastructure, battery range, maintenance, and safety reduce their willingness to purchase and recommend electric vehicles.

The findings reveal that younger consumers show greater interest in electric scooters, while affordability remains a major issue for lower-income groups. Charging infrastructure and battery performance are identified as critical factors influencing consumer confidence and adoption decisions. Statistical analysis also confirms that income level significantly affects price perception, and improved charging facilities positively influence consumer trust in electric scooters.

Although government policies and subsidies support the growth of electric mobility, many respondents believe that these benefits are not effectively communicated. Overall, the study highlights that Ather Energy and policymakers must focus on reducing costs, improving charging networks, strengthening after-sales service, increasing awareness, and enhancing safety features to accelerate the adoption of electric scooters in Chennai and support sustainable transportation.

References

[1] Bhatia, R., & Jain, T. (2020). Consumer preference towards electric scooters in India. International Journal of Research in Engineering and Management, 5(3), 45–52.

[2] Deloitte. (2023). 2023 Global Automotive Consumer Study: Electric vehicles and the road to adoption. Deloitte Touche Tohmatsu Limited, London.

[3] Egbue, O., & Long, S. (2012). Barriers to widespread adoption of electric vehicles: An analysis of consumer attitudes and perceptions. Energy Policy, 48, 717–729.

[4] Government of India. (2022). Electric Vehicle Policy and Incentive Schemes. Ministry of Heavy Industries, New Delhi.

[5] International Energy Agency (IEA). (2022). Global EV Outlook 2022: Securing supplies for an electric future. IEA Publications, Paris.

[6] Jaiswal, D., & Kant, R. (2018). Electric vehicle adoption in India: A conceptual framework. International Journal of Electric and Hybrid Vehicles, 10(2), 125–142.

[7] Kotler, P., & Keller, K. L. (2016). Marketing Management (15th ed.). Pearson Education, London.

[8] Kumar, R. R., & Alok, K. (2020). Adoption of electric vehicle in India: A review of barriers and facilitators. Journal of Cleaner Production, 256, 120–132.

[9] Li, W., Long, R., Chen, H., & Geng, J. (2017). A review of factors influencing consumer intentions to adopt electric vehicles. Renewable and Sustainable Energy Reviews, 76, 354–365.

[10] McKinsey & Company. (2022). The Future of Electric Mobility in India. McKinsey Global Institute.

[11] NITI Aayog. (2021). India's Electric Vehicle Transition: Pathways and Policy Recommendations. Government of India, New Delhi.

[12] Rezvani, Z., Jansson, J., & Bodin, J. (2015). Advances in consumer electric vehicle adoption research: A review and research agenda. Transportation Research Part D: Transport and Environment, 34, 122–136.

[13] Rogers, E. M. (2003). Diffusion of Innovations (5th ed.). Free Press, New York.

[14] Sharma, N., & Mishra, P. (2021). Consumer awareness and perception towards electric vehicles in India. International Journal of Electric and Hybrid Vehicles, 13(2), 145–162.

[15] Singh, A., & Singh, B. (2019). Brand reputation and consumer trust in automobile purchasing behavior. Journal of Marketing and Consumer Research, 14(1), 66–74.

Acknowledgement

The authors express their sincere gratitude to the Sathyabama Institute of Science and Technology for providing the opportunity and support to carry out this research work successfully. This research paper was undertaken as a part of the Project and Problem Based Learning (PBL) initiative of the School of Management Studies.

The authors extend their heartfelt thanks to the School of Management Studies for their valuable guidance, encouragement, and academic support throughout the study. Special appreciation is conveyed to the faculty members, respondents, and all those who contributed directly and indirectly to the successful completion of this research paper on consumer perception and adoption of Ather Energy electric scooters in Chennai.