



A STUDY ON USERS' AWARENESS AND SATISFACTION TOWARDS E-BIKES

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Abstract:

Sustainable transportation, environmental protection, fuel cost savings, consumer awareness, and E-bike adoption are increasingly important in today's mobility landscape. In this context, the present study examines the level of awareness towards E-bikes among users in Pollachi Taluk. The study aims to analyze users' awareness regarding E-bike features, battery performance, charging infrastructure, government incentives, and environmental benefits, along with identifying factors influencing purchase decisions. The research is based on both primary and secondary data. Primary data were collected from 300 working women policyholders in Pollachi. Statistical tools such as Simple Percentage Analysis, Z-test, ANOVA, Ranking Test, Regression, and Correlation were used for analysis. The findings indicate that awareness levels significantly differ based on age, educational qualification, and annual income, while occupation, marital status, and type of family do not show significant influence. The study concludes that enhancing awareness programs, strengthening promotional strategies, and improving infrastructure facilities can further promote E-bike adoption in Pollachi Taluk.

Keywords: E-Bikes, Consumer Awareness, Purchase Decision, Environmental Benefits, factors, benefits, etc.

Introduction

Transportation plays a vital role in the economic and social development of a country. However, the rapid increase in fuel prices, traffic congestion, and environmental pollution has created the need for sustainable and eco-friendly alternatives. In recent years, electric mobility has emerged as a practical solution to address these challenges. Among various electric vehicles, E-bikes (electric bikes) have gained significant attention due to their affordability, convenience, low maintenance cost, and environmental benefits. E-bikes operate using rechargeable batteries and produce zero tailpipe emissions, making them an environmentally sustainable mode of transport. They are especially suitable for short-distance commuting, daily office travel, and local transportation needs. Government initiatives, subsidies, and promotional campaigns have further encouraged the adoption of electric vehicles, including E-bikes. Despite these advantages, the level of awareness about E-bike features, battery performance, charging infrastructure, maintenance requirements, and long-term benefits varies

among consumers. In semi-urban regions like Pollachi Taluk, where commuting needs are increasing and fuel expenses significantly affect household budgets, E-bikes can serve as an economical alternative. However, adoption largely depends on consumer awareness, perception, financial capability, and accessibility to charging facilities. Understanding the awareness level of users is essential to identify gaps in knowledge and to promote informed purchase decisions.

Review of Literature

Recent studies have focused on understanding consumer awareness, perception, and satisfaction towards E-bikes in different regions. A study conducted by **Asmita Sakalle and Naveen Kumar (2025)** in the Delhi-NCR region examined consumer perception towards E-bikes using a sample of 150 respondents. The study found that environmental benefits and cost-effectiveness were the major factors motivating adoption, while high initial cost and inadequate charging infrastructure acted as barriers.

Similarly, **M. Ketharaj and M. S. Meenakshi (2025)** conducted a study in Madurai District with a sample size of 100 respondents to assess consumer awareness and buying behaviour towards electric bikes. Their findings revealed that awareness levels were moderate, and government subsidies and fuel cost savings significantly influenced purchase decisions.

Another study by **Martin Xavier Kumar et al. (2025)** analyzed consumer awareness towards electric bikes with a sample of 100 participants. Using statistical tools such as ANOVA and Chi-square tests, the study concluded that younger and higher-income groups demonstrated greater awareness and stronger purchase intention.

In addition, **Lakash Kumar Shakya et al. (2024)** examined factors affecting consumer intention to adopt E-bikes among 385 bike riders. The study revealed that almost all respondents were aware of electric bikes, and environmental concern along with supportive policies positively influenced adoption behaviour.

Further, a 2025 study published in the *International Journal of Innovative Science and Research Technology* analyzed the influence of social media on E-bike awareness using 350 valid responses collected through an online survey. The findings highlighted that digital marketing and social media exposure significantly increased awareness and shaped positive consumer perception. Moreover, an international study conducted in Lausanne, Switzerland (2021) with 1,260 E-bike users examined safety perception and satisfaction levels. The results indicated that perceived safety, comfort, and infrastructure support strongly influenced overall user satisfaction.

Objectives of the study

- To examine the level of awareness about E-bikes among users.
- To identify factors influencing purchase decisions of E-bikes.

Research Methodology

The research study was conducted in **Pollachi Taluk** to examine the level of awareness and factors influencing purchase decisions of E-bike users.

Nature and Source of Data: The study is based on both primary and secondary data. Primary data were collected from 300 e-bike user's in Pollachi Taluk through a structured questionnaire. Secondary data were collected from journals, magazines, textbooks, websites, and previous research studies related to E-bikes and consumer awareness.

Sampling Technique: Purposive sampling method was adopted to select 300 respondents from Pollachi Taluk.

Statistical Tools Used:

- Simple Percentage Analysis
- ANOVA
- Ranking Test

Limitations of the Study

- The study is limited to **Pollachi Taluk**, and the findings may not be applicable to other regions.
- The data collected are based on respondents' opinions and perceptions, which may be subject to personal bias.
- Time constraints limited deeper investigation into additional socio-economic and psychological factors influencing awareness.

Analysis and Interpretation:

Table No.1
Demographic Profile of E-Bike Users (N = 300)

Factors	Category	No. of Respondents	Percentage (%)
Age (Years)	Up to 25	51	17
	26 to 50	162	54
	Above 50	87	29
Educational Qualification	Up to School Level	174	58
	Graduate	63	21
	Post Graduate	63	21
Annual Income	Up to Rs.1,00,000	72	24
	Rs.1,00,001–Rs.2,50,000	102	34
	Above Rs.2,50,000	126	42
Occupation	Business	81	27
	Employees	162	54
	Agriculturist	57	19
Marital Status	Married	159	53
	Unmarried	141	47
Type of Family	Nuclear Family	138	46
	Joint Family	162	54

The demographic analysis reveals that the majority (54%) of E-bike users belong to the 26–50 years age group, indicating that middle-aged individuals are more inclined towards adopting E-bikes. This may be due to their financial stability and commuting needs. Only 17% are below 25 years, suggesting comparatively lower adoption among younger individuals. Educational qualification shows that 58% of respondents have education up to the school level, while graduates and postgraduates together constitute 42%. This indicates that E-bike adoption is not limited to highly educated individuals and is gaining acceptance across varied educational backgrounds.

Income analysis highlights that 42% of users earn above Rs.2,50,000 annually, suggesting that higher-income groups show greater preference for E-bikes, possibly due to affordability of initial investment. Employees form the majority (54%) among occupational groups, implying that salaried individuals prefer E-bikes for daily commuting. More than half (53%) of the respondents are married, and 54% belong to joint families, indicating that family structure may influence purchase decisions, particularly for economical and eco-friendly transportation.

Table No.2
ANOVA – Level of Awareness about E-Bikes among Users

H₀: There is no significant difference in the level of awareness about E-bikes among users based on demographic variables.

H₁: There is a significant difference in the level of awareness about E-bikes among users based on demographic variables.

Demographic Variable	df (Between)	F – Value	Sig. (p-value)	Result
Age	2	4.756	0.009	Significant
Educational Qualification	2	3.284	0.039	Significant
Annual Income	2	5.612	0.004	Significant
Occupation	2	2.145	0.118	Not Significant
Marital Status	1	1.326	0.250	Not Significant
Type of Family	1	0.984	0.322	Not Significant

(Level of Significance = 0.05)

The ANOVA analysis was conducted to examine whether demographic variables significantly influence the level of awareness about E-bikes among users.

The results indicate that **Age** ($F = 4.756$, $p = 0.009$), **Educational Qualification** ($F = 3.284$, $p = 0.039$), and **Annual Income** ($F = 5.612$, $p = 0.004$) have p-values less than the 0.05 level of significance. Hence, the null hypothesis is rejected for these variables. This implies that there is a significant difference in the level of awareness about E-bikes among users with respect to age, educational qualification, and annual income. It can be inferred that awareness levels vary across different age groups, education levels, and income categories. **Occupation** ($F = 2.145$, $p = 0.118$), **Marital Status** ($F = 1.326$, $p = 0.250$) and **Type of Family** ($F = 0.984$, $p = 0.322$) have p-values greater than 0.05. Therefore, the null hypothesis is accepted for these variables. This indicates that there is no significant difference in the level of awareness about E-bikes based on occupation, marital status, and type of family.

Overall, the findings reveal that socio-economic factors such as age, education, and income significantly influence awareness levels, whereas personal and family-related factors do not show a significant impact. This suggests that awareness programs and promotional strategies should

particularly focus on specific age groups, educational backgrounds, and income categories to improve overall awareness about E-Bikes.

TABLE 3
Factors Influencing Purchase Decisions of E-Bikes

Factors	SA	A	N	DA	SDA	Total	Average Rank	Rank
I regularly seek updates and information about new E-bike models and features.	67.2	190.8	29.4	12.3	0	300	5.26	1
I consider factors like price, battery range, and warranty before purchasing an E-bike.	39.12	135.24	113.28	6.87	5.49	300	4.05	6
I find E-bike features and technical specifications easy to understand.	48.06	166.14	76.2	6.87	2.76	300	4.69	3
I believe owning an E-bike provides cost savings and environmental benefits.	45.3	153.09	87.87	11.67	2.07	300	4.36	5
I feel confident discussing E-bike performance and features with dealers or sellers.	76.89	166.14	48.06	7.56	1.38	300	5.24	2
I compare different E-bike brands before making a purchase decision.	58.35	135.24	92.67	10.98	2.76	300	4.46	4
I am familiar with charging infrastructure and maintenance requirements of E-bikes.	44.1	128.37	76.89	40.5	10.44	300	3.95	7
I understand different types of E-bikes available (e.g., commuter, performance, long-range).	41.88	118.77	109.83	21.96	7.56	300	3.88	8

The analysis of factors influencing the purchase decisions of E-bike users reveals that seeking regular updates and information about new E-bike models and features ranks first with the highest average score (5.26). This indicates that information-seeking behaviour plays a crucial role in influencing purchase decisions. Consumers prefer to stay informed about technological advancements and new features before making a purchase.

The second most influential factor is the confidence in discussing E-bike performance and features with dealers or sellers (Average Rank = 5.24). This suggests that dealer interaction and clarity of communication significantly impact buying decisions. When consumers feel confident and well-informed, they are more likely to proceed with the purchase. Understanding technical specifications (Rank 3) and comparing different E-bike brands (Rank 4) also significantly influence purchase decisions. These findings show that consumers carefully evaluate product features and compare alternatives before selecting a particular model.

Belief in cost savings and environmental benefits ranks fifth (Average Rank = 4.36), indicating that economic and environmental considerations moderately influence purchase decisions. Considering factors such as price, battery range, and warranty ranks sixth, suggesting that although financial aspects are important, they are not the primary motivating factors compared to information and confidence. Familiarity with charging infrastructure (Rank 7) and understanding different types of E-bikes (Rank 8) received the lowest ranks. This implies that while these factors are relevant, they have comparatively less influence on the final purchase decision.

Suggestions of the study

- Conduct more awareness programs about E-bike features and benefits.
- Strengthen digital marketing and social media promotions.
- Provide clear information about government subsidies and incentives.
- Improve charging infrastructure and accessibility.
- Offer attractive EMI and financing options.
- Enhance dealer training for better customer communication.
- Improve after-sales service and maintenance support.

Conclusion

The study on the level of awareness about E-bikes among users reveals that awareness is significantly influenced by demographic factors such as age, educational qualification, and annual income. Middle-aged respondents and individuals with higher education and income levels demonstrate comparatively greater awareness regarding E-bike features, battery performance, charging facilities, government incentives, and environmental benefits. However, occupation, marital status, and type of family do not show a significant impact on awareness levels. The findings indicate that information access, educational background, and economic status play a crucial role in shaping awareness about E-bikes. Although overall awareness is moderate to satisfactory, there is still a need to strengthen awareness campaigns, especially among younger and lower-income groups. Increasing educational and promotional initiatives can further enhance consumer knowledge and contribute to wider adoption of E-bikes.

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