CONSUMERS EMBRACE TOWARDS ELECTRIC TWO-WHEELER

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Abstract

The trend has changed in recent years, everyone prefers Electric bikes when compared to traditional bikes due to fuel hike, maintenance cost etc., but it represents only a tiny percentage of the total new vehicles sold globally. Electric two-wheelers averaged monthly sales of 51,280 units or 1,686 unit sales every day in 2022.. Therefore, the adoption of an electric two-wheeler (E2W) needs to be studied. The present study aimed to identify the factors that influence consumers' intentions to adopt electric two-wheelers. The questionnaire method was employed, and 150 valid responses were collected. Perceived economic benefits were found to be the main factor influencing consumers to purchase electric two-wheelers. The findings of this research also show that women are more inclined towards purchasing electric two-wheelers than men. These results offer useful information for governments and electric-two-wheelers companies to gain a better understanding of consumer behavior towards purchasing electric two-wheelers.

Keywords: Electric bike, E2W, Electric two-wheeler, Eco-friendly bikes

Introduction and Need for the study

The developing economy of India is having a large fleet of passenger vehicles. The passenger vehicle segment is seeing lot of new vehicles riding down the streets each and every month. The problem of using the conventional engines is causing considerable damage to the environment. The regulating authorities are having lot of problems with the emissions created by the conventional engines. The consumers choose preferably the conventional bikes to that of the innovative eco-friendly bikes. The consumers' perception towards the conventional bikes to that of the conventional system of passenger vehicles has vital role in the transitional phase to eco-friendly bikes. The emissions caused by the conventional bikes are making the government and consumers think towards the alternatives. But the comfort and economy of the bikes using conventional engines is being the Hurdle in the change of the consumers' preference.

The evolution of the Electric Bike has proved to be a great challenge for the conventional engines in the automobiles segment. The perception of the consumers plays a vital role in the development of the Electric Bike in the Indian economy. The perception acts as the mediation of the consumer preferences towards the product. The Electric Bike on that note has to oblige the consumers with reasonable price, comfort and other consumer friendly features. The perception of the consumers might change with the above features of the Electric Bike. The problems of adapting to new standards, the cost involved in it and transition to new technology will take time based on the consumers perception towards the Electric Bike which will be focus of the study

Review of literature

- Ranjan et. al. (2013) studied various factors influencing the buying behavior and purchase intensions towards electric scooter respectively. Key factors influencing customer purchasing behavior were identified. The factors emerged in the study were identified as trend & fashion, features & brand equity, added value, engine power and advertisement. Analysis of demographic profile of consumers revealed that the differences in the impact on customers' purchase behavior towards E2W were due to the factors viz. comfort, mileage, design, style, optimum speed, maintenance cost, reliability, brand image, advertising, spare parts availability, after-sale service and re-sale value. E-scooters were found to be more appropriate in the younger age group of

15-25. High-income and higher education individuals showed more favorable intentions for purchasing e-bikes

- **Dhivya and Bhoopathi, (2022)** have discussed analysed the awareness and satisfaction for electronic bike consumers in Coimbatore, city. The study resulted that the variables that are gender, age and educational qualification positively significant impact on consumer's awareness and satisfaction towards electric bikes during the study period. Similarly, few factors not satisfactory while noted in analysis that are fear and awareness of the method of use, maintenance methods in proper organization and weight bearing capacity

Objectives of the study

- To study the factors considered by the consumers to purchase electric two wheelers in Coimbatore city.
- To know the satisfaction level of the consumers towards usage of electric two wheelers in Coimbatore city

Methodology of the Study

- **Data**: Primary data were used for the study. The data was collected through the issue of questionnaire.
- **Sample**: The data was collected from 150 respondents in Coimbatore city
- **Sampling technique**: Convenient sampling technique was adopted to collect the data.
- **Area of study**: Coimbatore city were identified for data collection.
- **Period of study**: December 2023 to February 2024
- **Statistical tools applied**: ANOVA and T-test

Discussion and Results

Gender and Level of satisfaction towards Electric two-wheeler:

Ho= "There is no significant difference in the Level of satisfaction towards Electric two-wheeler between male and female consumers"

Table 1(a) and 1(b) indicates the satisfaction level of the consumers towards Electric two-wheeler based on gender, its mean value and t-test results. The highest mean score of 18.91 is found among the male students. Hence their Level of satisfaction towards Electric two-wheeler is higher when compared to female students. The t-test result table 1(b) shows that at 5% level of significance, the significant value is 0.021. As the significant value is less than 0.05, the null hypothesis is rejected and the result shows that there exists significant difference in the Level of satisfaction towards Electric two-wheeler among male and female consumers.

Area of residence and Level of satisfaction towards Electric two-wheeler:

Ho= "There is no significant difference in the Level of satisfaction towards Electric two-wheeler among the consumers residing in different area"

Table 2(a) and 2(b) indicates the satisfaction level of the consumers towards Electric two-wheeler based on Area of residence, its mean value and ANOVA results. The highest mean score of 16.11 is found among the students residing in Rural areas. Hence their Level of satisfaction towards Electric two-wheeler is higher when compared to other consumers. The ANOVA result table 2(b) shows that at 5% level of significance, the significant value is 0.499. As the significant value is more than 0.05, the null hypothesis is accepted and the result shows that there is no significant difference in the Level of satisfaction towards Electric two-wheeler among consumers residing in different areas.

Reason for selecting Electric two-wheeler and Level of satisfaction towards Electric two-wheeler:

Ho= "There is no significant difference in the Level of satisfaction towards Electric two-wheeler among the different reasons for selecting electric two-wheeler."

Table 3(a) and 3(b) indicates the satisfaction level of the consumers towards Electric two-wheeler among the different reasons for selecting electric two-wheeler, its mean value and ANOVA results. The highest mean score of 19.68 is found among the Eco-friendly option. Hence that reason is considered as the most important reason which leads to satisfaction towards Electric two-wheeler when compared to other reasons. The ANOVA result table 3(b) shows that at 5% level of significance, the significant value is 0.033. As the

significant value is less than 0.05, the null hypothesis is rejected and the result shows that there exists significant difference in the Level of satisfaction towards Electric two-wheeler among the different reasons for selecting electric two-wheeler.

Factors considered while choosing Electric two-wheeler and Level of satisfaction towards Electric two-wheeler

Ho= "There is no significant difference in the Level of satisfaction towards Electric two-wheeler among the factors considered while choosing Electric two-wheeler."

Table 4(a) and 4(b) indicates the satisfaction level of the consumers towards Electric two-wheeler among the factors considered while choosing Electric two-wheeler, its mean value and ANOVA results. The highest mean score of 16.03 is found in cost efficient factor Hence that factor is considered as most important factor which leads to satisfaction towards Electric two-wheeler when compared to other factors. The ANOVA result table 4(b) shows that at 5% level of significance, the significant value is 0.370. As the significant value is more than 0.05, the null hypothesis is accepted and the result shows that there exists no significant difference in the Level of satisfaction towards Electric two-wheeler among the factors considered while choosing Electric two-wheeler.

SUGGESTIONS AND CONCLUSION

More publicity is required for the vehicle since many people are not aware about electric bike. E-bikes are utilized only for short distance because of low battery capacity, thus producers should concentrate on research and development to expand the capacity of e-bike Another big challenge with e-bike is the requirement for regular charging of the batteries, to address this problem charging facilities should be built at various sites.

References

- Ranjan, P., Bhatnagar, Y, & Sehdev, R., Assessment of Consumer Buying Behaviour Towards Electric Scooters in Punjab. CLEAR International Journal of Research in Commerce & Management., 4(6). Retrieved December 28, 2020, from http://search.ebscohost.com/login.aspx?direct=true&db=bsu&AN=119727948&site=ehost lie

- Dhivya Priya and Boopathi, Consumers Awareness and Satisfaction towards Electric Bikes- With respect to Coimbatore City, Madhya Bharathi, Vol 82, No 1, July- Dec 2022. Pp 148 – 156.

Appendix

Table No: 1.1(a)

Descriptive statistics- Gender and Level of satisfaction towards Electric two-wheeler

Gender	N	Mean	Std. Deviation
Male	66	18.9091	6.02961
Female	84	15.0238	3.99088
Total	150	15.4133	4.01873

Table No:1.1(b)

T-test- Gender and Level of satisfaction towards Electric two-wheeler

t	df	Sig. (2-tailed)
1.343	148	.021

Table No: 2.1(a)

Descriptive statistics- Area of residence and Level of satisfaction towards Electric two-wheeler

Area of Residence	N	Mean	Std. Deviation
Urban	98	15.1429	3.89025
Rural	27	16.1111	4.66025
Semi-urban	25	15.7200	3.82448
Total	150	15.4133	4.01873

Table No:2.1(b)

ANOVA- Area of residence and Level of satisfaction towards Electric two-wheeler

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.667	2	11.333	.699	.499
Within Groups	2383.707	147	16.216		

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Between Groups	22.667	2	11.333	.699	.499
Within Groups	2383.707	147	16.216		
Total	2406.373	149			

Table No: 3.1(a)
Descriptive statistics- Reason for selecting Electric two-wheeler and their Level of satisfaction towards it.

Factors for choosing Electric two-wheeler	**N**	**Mean**	**Std. Deviation**
Charging facilities	34	9.1471	4.16430
Wide Range	23	14.6087	2.58912
Battery performance	15	11.8667	4.50185
Eco-friendly	78	19.6795	3.22882
Total	150	15.4133	4.01873

Table No:3.1(b)
ANOVA- Reason for selecting Electric two-wheeler and their Level of satisfaction towards it.

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	25.910	3	8.637	1.530	.033
Within Groups	2380.463	146	16.305		
Total	2406.373	149			

Table No: 4.1(a)

Descriptive statistics- Factors considered while choosing Electric two-wheeler and Level of satisfaction

Factors considered	N	Mean	Std. Deviation
Cost efficient	57	16.0351	4.29686
Charging time	26	15.3077	4.15470
Safety	9	13.4444	2.78887
Maintenance	32	14.8125	4.16156
Comfortable	26	15.5769	3.30058
Total	150	15.4133	4.01873

Table No: 4.1(b)

ANOVA- Factors considered while choosing Electric two-wheeler and Level of satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	69.462	4	17.365	1.077	.370
Within Groups	2336.912	145	16.117		
Total	2406.373	149			