



A STUDY ON CUSTOMER PREFERENCE TOWARDS ATHER ENERGY AMONG E- SCOOTERS WITH SPECIAL REFERENCE TO COIMBATORE CITY

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ABSTRACT

E-scooters have recently emerged as an alternative means of transportation in cities. It remains unclear whether e-scooters compete for users with bicycles – another mode of shared micro mobility. Their relationship to public transport can be complementary or substitutionary, and it has not been ascertained which effect prevails. This paper contributes to answering these questions using empirical trip-level data on Warsaw. We find that there is little difference between e-scooters' and bicycles' speed and that placement of bicycle docks influences number of e-scooter trips, which is an indication that they compete for the same market. E-scooters' trip data shows that they are more complementary to rapid public transport and may contribute to solving the last-mile problem. We discuss the importance of results for optimal policy promoting environmentally friendly transportation and identify further research directions.

KEYWORDS: E- scooter, Transportation, environmentally friendly.

1. INTRODUCTION

Nowadays, Electric scooters have become one of the best means of transportation for short trips. The electric scooter is based on a traditional manpower skateboard, plus a power kit. Current electric scooters are generally divided into two-wheel drive or single-wheel drive. The most common transmission methods are: hub motor (HUB), and belt drive. The main power source is lithium battery pack.

The electric scooter is controlled in the same way as a traditional electric bicycle. It is easy to be learned by the driver. It is equipped with a detachable and foldable seat. It is simpler than the traditional electric bicycle, small in size, light and simple, and can save a lot of social resources. In recent years, the rapid development of lithium scooters for electric batteries has given rise to new demands and trends.

2. STATEMENT OF THE PROBLEM

People all over the country prefer to travel on bikes, which gives them utility and cost-efficient mode for transport. When it comes to electric bikes are even better than normal bikes as there is no fuel consumption in electric bikes and in countries like India where their majority are of middle-class families who cannot afford high fuel prices. With many cities attempting to bring in a greener sense of living, companies have created electric scooters as a means to replace cars that run on fossil fuels. These scooters emit fewer greenhouse gases and don't run on gasoline. Because city inhabitants don't necessarily need a car to drive down a few blocks, the electric scooter could prove to be a successful means of yet more environmentally-friendly practices.

3. OBJECTIVES OF THE STUDY

- To Know the Socio-Economic factors of the Respondents.
- To Find out the awareness of customer about the Ather Energy E- scooter in Coimbatore City.
- To Analyse about the Performance of Ather Energy among the other Electric Scooters.
- To Find out the reason why customer refers to Ather energy's Electric Scooter.

4. SCOPE OF THE STUDY

This study helps in knowing how far the electric bikes are been familiar to the surroundings and how far the people in the city are using this and how familiar is they are very known about its specifications and its functions.

This again helps the unknown people that how to use the electric bikes and models, preferences to be known and its specifications too. This also helps in giving suggestions to the researchers or to the companies that what are they wanted to change in their products and how far are they want to increase its production promotion to be known by the end customer in the world and this helps in us to learn many things about the product(e-bikes).

The Scope for EVs in India with annual domestic sales surpassing 19 million in the fiscal year ended March 31, 2018 (six times the sales of cars over the same duration), India reigns as the world's biggest market for scooters and motorcycles. The next largest market is China, with annual motorcycle sales of about 17 million.



Even as most car makers resist bringing electric cars to India, the sales of electric scooters are expected to exceed 2 million a year 2030. Although electric scooters currently make up a fraction of the total, the market is growing rapidly. Reports from the Society of Manufacturers of Electric Vehicles (SMEV) reveal that in fiscal 2017-18, sales of electric bikes and scooters from a year ago doubled, while electric car sales dropped to 1,200 from 2,000 during the same time period.

5. RESEARCH METHODOLOGY

5.1 SOURCE OF DATA

• PRIMARY DATA

The primary data has been collected through questionnaires filled by 120 respondents using electric bikes.

• SECONDARY DATA

The secondary data have been chosen from various journals and websites

• RESEARCH DESIGN

The Research Design Implemented In this project is Descriptive Method.

5.2 SAMPLING DESIGN

For the present study purpose, simple convenient random sampling (non-probability sampling) has been selected. This particular survey was directed at only in Coimbatore city and customers using Ather Energy. The sampling size varies upon respondents consisting of customers who are availing Ather Energy.

5.3 AREAS COVERED AND SAMPLING TECHNIQUE

All the respondents have been chosen from Coimbatore city based on convenient random sampling.

5.4 TOOLS USED

- Simple percentage method
- Rank Analysis Method

5.5 PERIOD OF STUDY

The study has been conducted for a period of three months from January 2023 to March 2023.

6. LIMITATION OF THE STUDY

- The survey is based on the respondents chosen random from Coimbatore city. Hence the result of the study cannot be generalized.
- The sample size has been restricted to 100 respondents.
- The respondents view and opinions may hold good for the time being and may vary in future.

7. REVIEW OF LITERATURE

A. Ashok Kumar, N. Amutha Prabha (2022) As the increase of electric vehicles using, questions and problems arise regarding the infrastructure for their charging, so satisfying more charging demand at same time is expected for charging stations requires more attentions to the charging infrastructure planning. This paper presents an optimization tool for solar infrastructure charging, making it possible to obtain an optimized linear power flow with constraints of valid recharging time, daily consumption of electric vehicles, and the daily PV power production.

Goswami, R., & Tripathi, G. C. (2020): Augmentation of charging infrastructure for electric vehicles growth in India. India, one of the fastest growing economies, has been a front-runner in fulfilling its commitments towards a cleaner Earth. In this pursuit, it intends to adopt electric vehicles (EVs) to the tune of 30% by 2030. Central and state governments of India have launched several financial incentives to encourage adoption of EVs.

(Mr. A. Rakesh Kumar, 2019) Opportunities and Scope for Electric Vehicles in India: by **Janardan Prasad Kesari, Yash Sharma, Chahat Goel**, developing an aggressive strategy for the adoption of EVs in India and ensuring a well-executed implementation is a challenge but vital for government. The geography and diversity of India will present problems that require thoughtful solutions.

Shallendra Kumar, S.K. Choudry and Chethan. K.N (2018) From their study of "Commercial Viability of Electric Vehicle in India" E-Vehicle are poised to cause a major disruption in the automobile as well as the energy industry across the globe. This disruption is propelled by powerful purpose of creating a greener, safer and sustainable planet.

(Mohamed M, 2018) Electric Vehicles in India: Market Analysis with Consumer Perspective, Policies and Issues: Pritam K. Gujarathi, Varsha A. Shah, Makarand M. Lokhande, Indian Scenario is different because the current market share of EV/PHEV is around 0.1%. Presently almost all vehicles consider fossil fuel-based transportation. These pollute the atmosphere by the emission of greenhouse gases & causes global warming.

(Pretty Bhalla, 2018) Electric Vehicles for India: Overview and Challenges: by Mr. A. Rakesh Kumar, Dr. Sanjeevikumar Padmanaban, Global pollution is on the rise and each effort made, is to cut back the CO₂ emissions and save the earth. One such effort is the introduction of EVs. The transport sector is one in all the largest emitter of CO₂ and hence it's important to reduce it.



8. ANALYSIS AND RESULT

8.1 Percentage Analysis

Table 1: Demographic Variable of the Respondents

Factors	Options	No. of Respondents	Percentage (%)
Gender-Specific	Male	71	57.3%
	Female	53	42.7%
Length of Life	18	3	5.6%
	19-30	93	75%
	31-45	21	16.9%
	Above 45	3	2.4%
Line of Work	Student	31	25%
	Employee	60	50.2%
	Business	25	20.2%
	Professional works	8	6.5%
	Annual Annuity	₹1,00,000- ₹3,00,000	19
	₹3,00,000- ₹6,00,000	58	46.8%
	₹6,00,000- ₹9,00,000	36	29%
	More than ₹9,00,000	11	8.9%
Civil Status	Married	37	29.8%
	Unmarried	87	70.2%
Family Type	Nuclear Family	67	54%
	Joint Family	57	46%
Brood (No of Members in The Family)	2	2	1.6%
	3-5	82	66.1%
	5-7	38	30.6%
	More than 7	2	1.6%
Habitation (Area of Residence)	Rural	8	6.5%
	Urban	98	79%
	Hill Station	18	14.5%

Table 2: Respondents behaviour towards various features of the E- Scooter

Factors	Options	No. of Respondents	Percentage (%)
Income Generation	Parent	47	37.9%
	Self	74	59.75
	Guardian	3	2.4%
Influencer On Buying Ather Energy	Self	23	18.5%
	Friends	49	39.5%
	Parents	27	21.8%
	Advertisement/Promo	25	20.2%
Duration Of Using Ather Energy	1 Month	19	15.3%
	6 Months	70	56.5%
	12 Months	31	25%
	More Than 12 Months	4	3.2%
Ather Energy Model	Ather 450 Plus	28	22.6%
	Ather 450 X	59	47.6%
	Ather 450 X (2023)	37	29.8%
Charging Time of Ather E-Scooter	Half An Hour	5	4%
	One Hour	42	42%
	One And Half Hours	58	46.8%
	According To the Needs of Using	19	15.3%



Service Option Rendered by Ather Energy	Connectivity Plans	80	64.5%
	Service Plans	44	35.5%

Table 3: Respondents behaviour towards various features of the E- scooter

Factors	Options	No. of Respondents	Percentage (%)
Perception On Better Replaceable Option for Petrol Scooters	Yes, sometimes	98	79%
	Maybe	26	21%
	No	-	-%
Satisfactory Level on The Service of The Ather Energy	Yes, sometimes	84	67.7%
	Maybe	38	30.6%
	No	2	1.6%
Satisfactory Level On The Mileage Of Ather	Highly Satisfied	39	31.5%
	Satisfied	60	48.4%
	Neutral	24	19.4%
	Dissatisfied	-	-%
	Highly Dissatisfied	1	0.8%
Proportion Level of Electric Scooter Usage	Less Than 25%	8	6.5%
	26-50%	23	18.5%
	51-75%	62	50%
	More Than 75%	30	24.2%
	--Na--	1	0.8%
Reason For Choosing Ather Energy	Get Around Easier, faster	17	13.7%
	Best Among Others	24	19.4%
	Specifications	57	46%
	It Is Good for The Environment	23	18.5%
	Save Money	3	2.4%

Percentage analysis deals with the demographic factors, respondent's behaviour towards various features of the health drinks and advertisement. It can be inferred from the above Table 1 that a Most (57.3%) of the respondents are male respondents in gender-specific, Majority (75%) of the respondents are between the (length of life) age limit of 19-30 years. 46.8% of the respondents are from the line of work in Employee, most (58%) of the respondent's annual annuity is from ₹3,00,000 - ₹6,00,000. Most (70.2%) of the respondent's civil status is un-married. Most (54%) of the respondent's family-type is nuclear. Most (66.1% of the respondent's family members is 3-5. Majority (79%) of the respondent's Habitation (area of residence) is Urban.

Table 2 shows that Most (59.7%) of the respondents are generating to buy this E-Scooter of themselves, 39.5% of the respondents are influenced by their friends to buy this Ather E-scooter. 41.1% of the respondents would sometime prefer/suggest this Ather E- scooter to their family, friends and relatives, most (58.5%) of the respondents are using Ather

Energy (E- scooter) for 6 months, 47.8% of the respondents are using the model Ather 450 X, 33.9% of the respondents charge their E- scooter for an hour. 48.4% of the respondents are satisfied with the mileage of the Ather Energy, most (67.7) of the respondents are satisfied with the service of the Ather, most (64.5%) of the respondents are fascinated on the Connectivity plans (Ather Connect lite, Ather Connect Pro).

Table 3 shows that 46% of the respondents choose Ather for its Specifications. Most (67.7) of the respondents are satisfied with the service of the Ather. Most (58.9%) of the respondent's opinion that the electric scooter is increasing. Majority (79%) of the respondents say YES, SOMETIMES to that E- scooter is the better replacement for the petrol vehicle. Most (62.9%) of the respondents agrees to that comparable to Ather, other E-scooter companies are admiring more the customers with their specifications.



8.2 Ranking Analysis

Table 4: E- scooter company in preference to their Specifications point of view

S. No	Specifications	Score	Rank
1	SUFFECIENT BATTERY	596	I
2	MAP NAVIGATION	486	IV
3	UI	481	V
4	SUSPENSION AND OTHER PARTS IN THE E-SCOOTER	499	III
5	WHAT IS YOUR PERCEPTION TOWARDS OVERALL PERFORMANCE?	506	II

Table 4 shows that on the specification of sufficient battery, the score is 596 and ranked in first among the 4 specifications like map navigation is 486 and rank fourth, and for UI the score is ranked fifth with 481 score, suspension and other parts in the E-Scooter it has got the score of 499 and ranked third and at last for the perception towards overall performance the score is 506 and ranked second.

9. SUMMARY OF FINDINGS

- ❖ On the application of the Percentage Analysis, the following results were obtained
 - Most (57.3%) of the respondents are male respondents in gender-specific.
 - Majority (75%) of the respondents are between the (length of life) age limit of 19-30 years.
 - 46.8% of the respondents are from the line of work in Employee.
 - Most (59.7%) of the respondents are generating to buy this E-Scooter of themselves.
 - Most (58%) of the respondent's annual annuity is from ₹3,00,000 - ₹6,00,000.
 - Most (70.2%) of the respondent's civil status is un-married.
 - Most (54%) of the respondent's family-type is nuclear.
 - Most (66.1% of the respondent's family members is 3-5.
 - Majority (79%) of the respondent's Habitation (area of residence) is Urban.
 - 39.5% of the respondents are influenced by their friends to buy this Ather E-scooter.
 - 41.1% of the respondents would sometime prefer/suggest this Ather E- scooter to their family, friends and relatives.
 - Most (58.5%) of the respondents are using Ather Energy (E- scooter) for 6 months.
 - 47.8% of the respondents are using the model Ather 450 X.
 - 33.9% of the respondents charge their E- scooter for an hour.
 - Most (58.9%) of the respondent's opinion that the electric scooter is increasing.
 - 48.4% of the respondents are satisfied with the mileage of the Ather Energy.
 - Most (67.7) of the respondents are satisfied with the service of the Ather.

- Majority (79%) of the respondents say YES, SOMETIMES to that E- scooter is the better replacement for the petrol vehicle.
- Most (64.5%) of the respondents are fascinated on the Connectivity plans (Ather Connect lite, Ather Connect Pro).
- Most (50%) of the respondent's surrounding is using 51-75% of the Electric Scooter.
- 46% of the respondents choose Ather for its Specifications.
- Most (62.9%) of the respondents agrees to that comparable to Ather, other E- scooter companies are admiring more the customers with their specifications.
- ❖ On the basis of Ranking Analysis, the following result is obtained
 - Majority of the respondents gave first rank for the Complain health drinks company in ethical advertisement point of view.

10. SUGGESTIONS

The Ather Energy finally fulfils the Customer's preference and it's been clearly explained with the analysis and its interpretation and inference shows that most of the customer's perception is about bringing in the best specifications and more fascinating things into their E- Scooter and thus implementing these things into their Ideology can make more customer Eagerness in using or taking it once for their time to check and to buy it. Thus, it can make more income to the Ather Energy and thus can bring a one and only opinion on talking on the E- Scooter and This is not a clear-cut note or preference and satisfaction, but it's just a thought of the customer's opinion and this can make some changes in the Ather Energy.

11. CONCLUSION

The concept of e-bike has entered into Coimbatore in the past 4-5 years and the same is gaining momentum, as there are around 10 dealers currently for e-bike in the city. As an eco-friendly product it is more suitable for city as it can reduce the emission of harmful gases and thereby it can reduce the atmospheric pollution. Due to frequent increase in the fuel prices, the electrically charged vehicles seems to be cheapest one compared to the traditional vehicles that the rural people can charge the vehicle with the help of electricity.

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around 10 dealers currently for e-bike in the city. As an eco-friendly product it is more suitable for city as it can reduce the emission of harmful gases and thereby it can reduce the atmospheric pollution. Due to frequent increase in the fuel prices, the electrically charged vehicles seem to be the cheapest one compared to the traditional vehicles. E-bikes are more suitable for rural areas where the numbers of petrol bunks are not adequate, so that the rural people can charge the vehicle with the help of electricity.

12. REFERENCES

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