

A STUDY ON CUSTOMER SATISFACTION AND CHALLENGES TOWARDS ELECTRIC TWO WHEELERS VEHICLE IN COIMBATORE

Dr. M. Manjula¹; Ms. A. Swetha²

Assistant Professor in Department of Commerce with International Business at Dr. N.G.P Arts and Science College, Coimbatore

II- M. Com (IB) Student at Dr. N.G.P Arts and Science College, Coimbatore

ABSTRACT

The study aimed to identify the customers satisfaction level and challenges on buying and utilizing the electric two wheelers in Coimbatore city. Data required for the study were collected from primary sources. The total of 80 respondents who are using the Electric two wheelers were selected in Coimbatore city using a random sampling method. his study aims to explore customer satisfaction and the challenges faced by users of electric two-wheeler vehicles in Coimbatore. By analysing factors such as performance, cost-effectiveness, charging infrastructure, and environmental impact, the research seeks to understand the key drivers of customer satisfaction. Additionally, the study identifies the obstacles, including limited charging stations, range anxiety, and maintenance issues, that hinder the widespread adoption of electric two-wheelers in the region.

Keywords: *Electric two wheelers, environmental impact, satisfaction, transportation system, charging infrastructure.*

INTRODUCTION:

The adoption of electric two-wheelers has gained momentum globally due to their environmental benefits, cost-effectiveness, and the growing demand for sustainable transportation options. In India, cities like Coimbatore are increasingly embracing electric vehicles (EVs) as a solution to urban mobility challenges. However, despite the promising advantages, there are concerns regarding customer satisfaction and the various challenges users face with electric two-wheelers, such as limited charging infrastructure, high upfront costs, and range anxiety. This study aims to assess customer satisfaction levels among electric two-wheeler users in Coimbatore, while also identifying the challenges they encounter in adopting and using these vehicles. The findings of this research will provide insights into the factors influencing EV adoption and suggest potential improvements to enhance the overall customer experience.

OBJECTIVES

- To determine the satisfaction level of the electric two wheelers among users.
- To study the socio-economic characteristics of the respondents.
- To analyse the satisfaction level of the respondents towards the electric two wheeler.

RESEARCH GAP

An area requiring further investigation in the "Electric Two Wheelers in Coimbatore City: Analysis of Environmental Safety and Mobility Impact" is the absence of comprehensive studies scrutinizing the enduring environmental and mobility implications stemming from the widespread integration of electric two-wheelers, specifically tailored to Coimbatore City's unique dynamics. While research on electric vehicles exists, particularly in urban settings, there's a noticeable of the studies centred explicitly on Coimbatore, taking into account its distinctive geographic, demographic, and infrastructural attributes. Conducting a study that delves into the intricate local factors, challenges, and opportunities associated with electric two-wheeler adoption in Coimbatore could furnish policymakers, urban planners, and stakeholders with invaluable insights to advance sustainable transportation initiatives within the Coimbatore city.

RESEARCH METHODOLOGY

AREA OF STUDY: Coimbatore

POPULATION: 1336

TYPE OF SAMPLING: Simple random sampling

SAMPLE SIZE: 80

TOOLS USED: Simple Percentage, Crosstabs, Ranking Method

REVIEW OF LITERATURE

Dr. Vennila Shree (2024): As transportation is still one of the biggest challenges in many parts of the country many look forward towards the two-wheelers industry is classified into various costly. The ranges named Motorbikes, scooters and mopeds which range from affordable to classy and costly. The interaction between price, ranges perceived value for money and charging infrastructure availability as a determinant of purchase intention and performance satisfaction. The charging infrastructure availability has a positive effect on performance satisfaction, highlighting the role of infrastructure in shaping customer perception. The study also reveals that the link between price and purchase intention is mediated by perceived value for money, highlighting the significance of customer perceptions in the decision -making process.

Kaushik Das et al (2023): In his study "The escalating demand for electric two-wheelers as a green and efficient mode of transportation, spurred by the rapid urbanization trend and heightened environmental sustainability concerns, necessitates a nuanced design solution. This research introduces a comprehensive evaluation framework that leverages the innovative principles of Pareto optimality and TOPSIS approaches to pinpoint the most optimal designs within the electric two-wheeler ecosystem. The framework meticulously subjects these designs to a thorough assessment against predetermined criteria, including but not limited to energy efficiency, manufacturing feasibility, and market viability. Furthermore, the TOPSIS methodology is incorporated to systematically rank nondominated options, facilitating the selection of a design that not only aligns with predefined objectives but also minimizes deviations from the ideal state. The integration of these dual approaches results in a robust tool that empowers industry producers and policymakers alike to make informed decisions when choosing the most suitable design options.

Sulabh Sachan et al (2022): In his study "Environmental concerns and the need for energy security have prompted researchers to seek alternative solutions in the transport sector, leading to increased interest in electrification. India's commitment to the Paris Agreement underscores the importance of addressing greenhouse gas emissions. Public interventions and policy changes are crucial for this transition. Consumer concerns, particularly regarding charging times and range, influence the adoption of electric vehicles (EVs). This study explores barriers to mobility adoption in India and highlights recent developments in charging infrastructure planning, along with challenges. Despite

being the second most populous country, India's EV adoption rate is low, emphasizing the necessity for a robust charging infrastructure to promote EV sales and usage”.

Arpit Khurana et al (2020): In his study “The environmental crisis and energy security concerns have forced researchers to look for a cleaner mode of transportation. Despite being among the top automobile manufacturing countries in the world, the adoption rate of EVs in India has been poor. To bridge this gap, the present study identifies the social factor responsible for slow adoption of EVs in India. The result may help in orienting the manufacturers and decision makers towards the faster adoption of EVs. This study will assist researchers to get a better understanding of the factors responsible for slow adoption of EVs in India”.

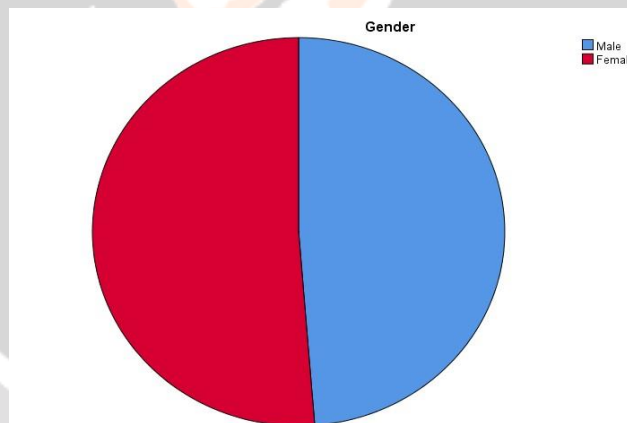
DATA ANALYSIS AND INTERPRETATION

4.1.2 TABLE SHOWING THE GENDER OF THE RESPONDENTS

SNO	PARTICULARS	PERCENTAGE
1	MALE	39
2	FEMALE	41

Source: Primary data

4.1.2 CHART SHOW THE GENDER OF RESPONDENTS



Source: Primary data

INTERPRETATION

The Table shows that 41% of Respondents are Female are using the electric two wheelers vehicle and 39% of Respondents are Male.

RANKING METHOD

RANK		
	MEAN RANK	RANK
Time to change battery	1.82	X
Less number of models	4.65	VIII

Unavailability of charging	6.16	V
Less distance travel for charging	5.87	VI
Battery replacement cost	4.59	IX
Low mileage	5.73	VII
Extended charge duration	6.76	I
Insufficient services centres	6.71	II
Lack of knowledge regarding upkeep and services	6.23	IV
Lack of clarity in government policy	6.47	III

Source: Primary data

INTERPRETATION

It is interpreted that Extended charge duration will (6.76) imposes the first rank, which implies that it is the major challenges faced by electric two wheelers users and time to change battery imposes the Tenth rank (1.82).

CROSSTAB

Cross tabulation, commonly shortened to crosstab, is a vital analytical technique for exploring the relationships between one or more variables and another variable. It proves particularly valuable when working with datasets containing variables labelled or named without a clear order, as often seen in nominal scale variables.

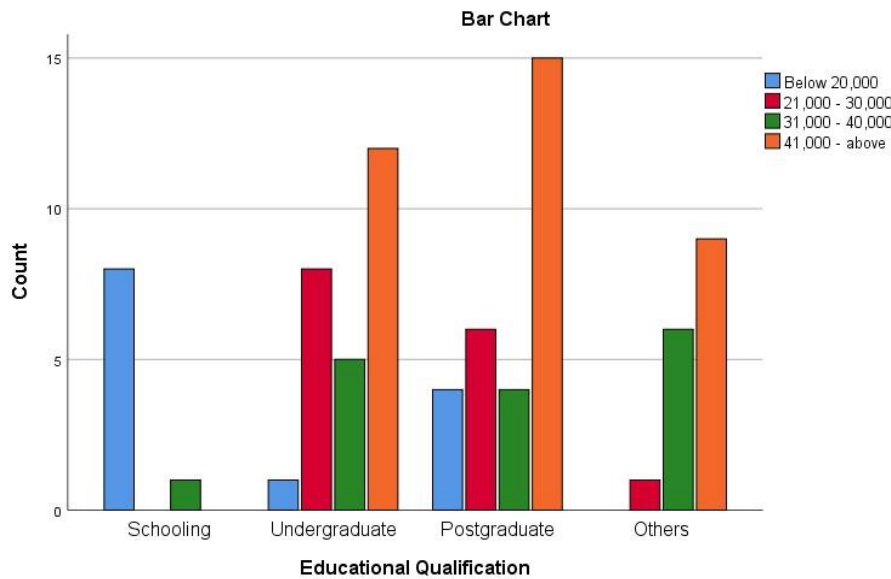
Through the use of crosstab, analysts can reveal intricate patterns and connections within the data, providing deeper insights into the interplay between different factors. This approach facilitates a nuanced comprehension of the underlying dynamics, equipping researchers with the knowledge needed to make well-informed decisions and draw meaningful conclusions from the dataset's complexities.

4.1.8 TABLE SHOWING THE EDUCATIONAL QUALIFICATION AND MONTHLY INCOME OF THE RESPONDENT

	Below 20,000	21,000-30000	31,000-40,000	41,000above	Total
Schooling	8	0	1	0	9
Undergraduate	1	8	5	12	26
Postgraduate	4	6	4	15	29
others	0	1	6	9	16
Total	13	15	16	36	80

Source: Primary data

4.1.8 CHART SHOWING THE EDUCATIONAL QUALIFICATION AND MONTHLY INCOME OF THE RESPONDENT



Source: Primary data

INTERPRETATION

Among the respondents, those with postgraduate and undergraduate qualifications form the majority, with 29 and 26 individuals, respectively. A significant portion of postgraduates and undergraduates fall into the highest income category (₹41,000 and above), suggesting that higher education levels correlate with better earning potential. In contrast, individuals with only schooling qualifications are primarily in the lowest income group (below ₹20,000), indicating limited income opportunities for less-educated individuals. The respondents classified under "Others" are distributed across mid-to-high income levels, with a considerable number earning between ₹31,000 and ₹41,000.

FINDINGS

SIMPLE PERCENTAGE ANALYSIS

- The majority of the respondents fall within the age group of 36-45, constituting (35.0%) of the total respondents.
- The majority of respondents are female (51.2%).
- The largest group in terms of educational qualification is postgraduate, making up (36.3%).
- The majority of respondents are Professionals (35.0%).
- The majority of the respondents has the monthly income of 41,000 above (45.0%).
- The majority of the respondents uses electric two wheelers for the purpose of Business use (38.8%)

RANKING METHOD

It is interpreted that Extended charge duration will (6.76) imposes the first rank, which implies that it is the major challenges faced by electric two wheelers users and Time to change battery imposes the Tenth rank (1.82).

CROSS TABULATION

- The majority of respondents have postgraduate (29 individuals) or undergraduate (26 individuals) qualifications.
- The majority (62.5%) of users prefer charging their vehicles at home, indicating a strong reliance on private charging solutions.

SUGGESTION

- Collect extensive data on Electric Two-Wheeler (ETW) prevalence in Coimbatore, including insights into charging infrastructure and usage patterns.
- Analyse air quality to understand the impact of Electric two wheelers on reducing pollutants.
- Collaborate with traffic authorities for a thorough analysis of traffic flow related to Electric two wheelers.
- Evaluate the current charging infrastructure, taking into account stakeholder involvement for a comprehensive perspective.
- Assess the effectiveness of existing policies through comparative studies and provide informed policy recommendations.
- To a certain degree, tax price reductions can encourage people to buy electric vehicles.
- More charging stations may encourage more people to purchase electric vehicles.

CONCLUSION

In summary, the analysis of electric two-wheelers in Coimbatore City underscores their positive impact on environmental safety and urban mobility. Furthermore, initiatives focused on public awareness and education are essential to promote the adoption of electric two wheelers. Informing citizens about the environmental advantages, long-term cost savings, and the overall positive impact on the city's transportation landscape can encourage a shift towards sustainable mobility choices. Policy support, including incentives and subsidies, can further motivate residents for electric two wheelers, enhancing accessibility and attractiveness to a broader population. In essence, embracing electric two-wheelers in Coimbatore requires a comprehensive approach involving infrastructure development, public engagement, and policy frameworks.