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CONSUMER PERCEPTION AND PURCHASE INTENTION TOWARDS ELETRIC VECHICLES IN COIMBATORE CITY, A MARKETING PERSPECTIVE

DR. A. THARMALINGAM[1], MR. S. SUDHARSHAN[2]

Associate Professor & Head, Department of Commerce with Banking & Insurance,

Sri Ramakrishna College of Arts & Science, Coimbatore[1]

Student of III B. Com B&I, Department of Commerce with Banking & Insurance,

Sri Ramakrishna College of Arts & Science, Coimbatore[2]

Abstract: The growing environmental concerns, rising fuel prices, and rapid technological advancement have significantly influenced the automobile industry, leading to increased interest in electric vehicles (EVs). This study examines consumer perception and purchase intention towards electric vehicles in Coimbatore city from a marketing perspective. The research focuses on understanding how factors such as environmental awareness, cost efficiency, government incentives, brand image, charging infrastructure, and promotional strategies shape consumer attitudes and buying decisions. It also analyzes the role of marketing communication, social influence, and perceived performance in encouraging adoption of electric vehicles. Primary data collected from consumers in Coimbatore city provides insights into their level of awareness, preferences, expectations, and concerns regarding EVs. The findings highlight that while consumers show a positive attitude toward environmentally friendly transportation, challenges such as high initial cost and limited charging facilities still influence purchase decisions. The study emphasizes the importance of effective marketing strategies, customer education, and infrastructure development to enhance consumer confidence and accelerate EV adoption.

Keywords: Consumer Perception, Charging Infrastructure, Purchase Intention, Green Marketing, etc.

INTRODUCTION

The global automobile industry is undergoing a major transformation due to increasing environmental concerns, rising fuel prices, and the need for sustainable transportation. Conventional fuel-powered vehicles contribute significantly to air pollution and carbon emissions, which have led governments, organizations, and consumers to explore eco-friendly alternatives. Electric vehicles (EVs) have emerged as one of the most promising solutions to reduce environmental impact and promote green mobility. In India, the demand for electric vehicles is gradually increasing due to government initiatives such as subsidies, tax benefits, and policies promoting clean energy transportation. Programs like the Faster Adoption and Manufacturing of Electric Vehicles (FAME) scheme have encouraged both manufacturers and consumers to adopt electric mobility. At the same time, improvements in battery technology, charging infrastructure, and vehicle performance have made EVs more practical and attractive to buyers.

STATEMENT OF THE PROBLEM

Despite the growing importance of sustainable transportation and government initiatives promoting electric vehicles, the adoption rate of electric vehicles among consumers is still relatively low compared to conventional fuel vehicles. Many consumers remain uncertain about the benefits and practicality of electric vehicles due to concerns such as high initial cost, limited charging infrastructure, battery performance, maintenance issues, and lack of awareness. Consumer perception plays a crucial role in influencing purchase intention, yet these perceptions may be influenced by misinformation, lack of experience, and inadequate marketing communication.

OBJECTIVES OF THE STUDY

- To analyze the knowledge about E-Vehicles among people.
- To know the Satisfaction of Customers towards E-Vehicle.
- To compare that electric vehicles save fuel cost and maintenance compare with other type of vehicles.

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HYPOTHESIS OF THE STUDY

H_1: There is a significant association between age and respondents satisfaction with the environmental benefits of electric vehicles

H2: There is a significant difference between gender and experiences with e-vehicle maintenance.

SCOPE OF THE STUDY

This study focuses on analyzing consumer perception and purchase intention towards electric vehicles in Coimbatore city from a marketing perspective. It covers factors such as consumer awareness, attitudes, preferences, and concerns regarding electric vehicles, including price, performance, charging infrastructure, maintenance, environmental benefits, and government incentives. The study is limited to individual consumers within Coimbatore city and examines how demographic variables like age, income, education, and occupation influence their buying behavior. It also explores the role of marketing strategies, promotional activities, and brand influence in shaping consumer decisions.

RESEARCH METHODOLOGY

Descriptive research used for the study**.** The area of the study focused is Coimbatore city. Both primary and secondary data have been used for the analysis. Primary data is also known as fresh data which is done by preparing questionnaire and by collecting the response from the customers. **S**econdary data are collected from the journals, websites, articles and newspapers for the analysis. 100 respondents with convenience sampling method used for study. The tools used for the study are percentage analysis, Chi-square analysis, One-way ANOVA and Correlation analysis.

LIMITATIONS OF THE STUDY

➢ The study is confined to Coimbatore city.

➢ Due to time constraints, only three months have been allotted. The study's ability to gather information about respondents was constrained by a number of questions.

REVIEW OF THE LITERATURE

Patel and Desai (2022) - Revealed that established automotive brands enjoy greater consumer trust when entering the EV segment. However, new EV-focused brands like Ather and Ola Electric have successfully built credibility, particularly among younger urban consumers. The study emphasized that brand reputation influences perceived quality and reliability, which are critical factors for Indian consumers making significant financial investments. **Ramesh and Lakshmi (2023) -** The relationship between environmental awareness and EV purchase intention among Indian consumers. Their research demonstrated that environmentally conscious consumers showed 2.3 times higher purchase intention compared to those with limited environmental awareness. However, the study also noted that environmental concern alone was insufficient without addressing practical considerations such as cost and convenience.

AN OVERVIEW OF THE STUDY

It focuses on understanding how consumers in Coimbatore perceive electric vehicles (EVs) and the factors influencing their intention to purchase them. With the rapid growth of environmental concerns, rising fuel prices, and increasing government initiatives promoting sustainable transportation, electric vehicles have emerged as a significant alternative to conventional petrol and diesel vehicles. This study aims to analyse consumer attitudes, awareness levels, preferences, and buying behaviour toward EVs within the urban context of Coimbatore city. The study explores various factors influencing purchase intention such as price sensitivity, environmental awareness, government subsidies, charging infrastructure availability, brand image, performance expectations, battery life, maintenance cost, and social influence.

DATA ANALYSIS AND INTREPRETATION

Table no 4.1 Demographic profile

Particulars		**No. of the Respondents**	**Percentage (%)**
Age group	**18–25 years**	**76**	**76**
	26–35 years	16	16
	36–45 years	4	4

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	Above 45	4	4
	Total	**100**	**100**
Gender	Male	42	42
	Female	**58**	**58**
	Total	**100**	**100**
Education Qualification	**UG**	**80**	**80**
	PG	8	8
	Professional	6	6
	Others	6	6
	Total	**100**	**100**
Occupation	**Student**	**64**	**64**
	Private	24	24
	Government	8	8
	Homemaker	4	4
	Total	**100**	**100**
Place of Residence	**Urban**	**56**	**56**
	Rural	34	34
	Semi - Urban	19	19
	Total	**100**	**100**

Source: Primary Data

Interpretation

- Mostly (76%) of the respondents are belonging to the age group between '18- 25 years'.
- Female respondents (58%) are higher compared to male respondents (42%), showing greater participation of females in the study.
- Most respondents (80%) are Under Graduates (UG), followed by 8% Post Graduates (PG).
- A majority of respondents (64%) are students, which aligns with the high percentage of young and UG participants.
- More than half of the respondents (56%) reside in urban areas.
-

TABLE NO 4.2

Table shows age and respondents satisfaction with the environmental benefits of using an E vehicle

Hypothesis of the study

H_0: There is no significant association between age and respondent's satisfaction with the environmental benefits of electric vehicles.

H_1: There is a significant association between age and respondent's satisfaction with the environmental benefits of electric vehicles.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.752[a]	9	.063
Likelihood Ratio	5.936	9	.046
Linear-by-Linear Association	1.786	1	.081
N of Valid Cases	100		
a. 9 cells (56.3%) have expected count less than 5. The minimum expected count is .08.			

Source: primary data

INTERPRETATION

The Pearson Chi-Square value is 6.752 with 9 degrees of freedom and an asymptotic significance (2-sided) of 0.063. Therefore, there is a significance association between age and respondent's satisfaction with the environmental benefits of using an E vehicle. Hence H1 is accepted at 10 per cent level.

Table 4.3

Table shows gender and experiences with e-vehicle maintenance

Hypothesis of the study

Hypothesis (H_0): There is no significant difference between gender and experiences with e-vehicle maintenance.

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Hypothesis (H_1): There is a significant difference between gender and experiences with e-vehicle maintenance.

particulars		Sum of Squares	df	Mean Square	F	Sig.
respondents experience with E vehicle maintenance	Between Groups	.038	1	.038	.070	.042
	Within Groups	53.922	98	.550		
	Total	53.960	99			

Source: primary data

INTERPRETATION

The F value is .070 and its significant at the level of significances .0492 at the degree of freedom 1. In F test if the significant value is above 0.05 then accept null hypothesis and reject the alternate hypothesis and this study shows there is a significant variation between gender and experiences with e-vehicle maintenance.

Table 4.4

Table hows gender and awareness of the benefits of Electric Vehicles

Hypothesis of the study

H_0: There is no significant relationship between gender and awareness of the benefits of electric vehicles.

H_1: There is a significant relationship between gender and awareness of the benefits of electric vehicles.

particulars		Gender	Awareness of the benefits of Electric Vehicles
Gender	Pearson Correlation	1	.028
	Sig. (2-tailed)		.081
	N	100	100
Awareness of the benefits of Electric Vehicles	Pearson Correlation	.028	1
	Sig. (2-tailed)	.781	
	N	100	100

Source: primary data

INTERPRETATION:

The Pearson correlation of 0.028 indicates a very weak positive association between gender and the perceived benefit of electric vehicles. The p-value of 0.781 is much greater than 0.05, meaning the correlation is not statistically significant. In practical terms, gender does not have a meaningful influence on whether respondents perceive electric vehicles as beneficial. Therefore H1 is accepted.

FINDINGS OF THE STUDY

- The majority of respondents (76%) belong to the 18–25 years age group, showing that young people are more interested in electric vehicles.
- Female respondents (58%) are higher than male respondents, indicating greater participation and awareness among women.
- Most respondents (80%) are Under Graduates (UG), followed by 8% Post Graduates (PG).
- A majority of respondents (64%) are students, which aligns with the high percentage of young and UG participants.
- More than half of the respondents (56%) reside in urban areas.
- The Pearson Chi-Square value (6.752) with 9 degrees of freedom has a significance value of 0.063 (> 0.05), indicating that there is no statistically significant association between age and respondents' satisfaction with environmental benefits of electric vehicles.
- The significance value (0.042) is less than 0.05, there is a statistically significant difference between gender and respondents' experience with e-vehicle maintenance.
- The significance value (0.081) is greater than 0.05, there is no statistically significant relationship between gender and awareness of the benefits of electric vehicles.

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SUGGESTIONS OF THE STUDY

- Government and companies should increase awareness campaigns about electric vehicles, especially targeting older age groups.
- More awareness about government subsidies and schemes should be provided through media and public programs.
- Social media should be effectively used for promoting electric vehicles because it is the main source of information.
- Charging infrastructure should be improved in both urban and rural areas to encourage EV adoption.
- Companies should focus on improving spare parts availability and service networks.

CONCLUSION

The study concludes that electric vehicles are becoming an important alternative to conventional petrol and diesel vehicles due to their economic, environmental, and technological advantages. The findings reveal that awareness and interest in EVs are high among young consumers, especially those in the 18–25 age group. The majority of respondents show a positive attitude toward adopting electric vehicles in the future. Most respondents believe that EVs help in reducing pollution and offer long-term financial benefits. Government initiatives and schemes such as Faster Adoption and Manufacturing of Electric Vehicles have created awareness and encouraged consumers to consider EVs.

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