



CUSTOMER PREFERENCE OVER INTERNAL COMBUSTION ENGINE CARS AND ELECTRIC CARS IN COIMBATORE CITY

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ABSTRACT

This study analyzes customer preferences for ICE and Electric Cars in Coimbatore. Coimbatore is a fast-growing city with rising awareness of sustainable transport. The global shift toward clean energy makes this research timely and relevant. Understanding customer attitudes is vital for automakers and policymakers. Key decision factors include environmental concerns and cost efficiency. Technological advancements and charging infrastructure also influence choices. ICE cars still dominate in sales and availability. However, interest in electric cars is steadily increasing. Environmental awareness and government incentives boost EV appeal. Concerns include range anxiety and inadequate charging stations. High initial cost is another barrier to EV adoption. The study offers insights to refine strategies for EV promotion.

Key Words: Internal Combustion Engine (ICE) Cars, Electric Cars (EVs), Customer Preferences.

INTRODUCTION

The shift towards sustainable and eco-friendly transportation solutions is gaining momentum worldwide, particularly with the rise of Electric Cars as an alternative to traditional Internal Combustion Engine (ICE) Cars. Coimbatore, a major industrial city in Tamil Nadu, India, is increasingly becoming a hub for this transition due to growing environmental concerns and rising fuel prices. This study aims to understand customer preferences regarding ICE and electric Cars in Coimbatore, focusing on the factors influencing their purchasing decisions, including environmental awareness, cost considerations, and technological advancements.

REVIEW OF LITERATURE

Qiuyuan Guo¹(2024)¹ : The study explores the future buying behaviour of electric cars, focusing on consumer preferences and market trends. It highlights the increasing necessity for electric vehicles (EVs) due to rising fuel costs and environmental concerns. Governments worldwide are offering incentives such as tax credits to promote EV adoption.

Dr.M. Renuka devi, Dr.Y.S. Irinie Jiji, G.A. Hema (2023)² : Several studies have explored the adoption, perception, and challenges of electric vehicles (EVs), particularly in the Indian market.

D.Priya, G.R. Rajalakshmi*, T. Priyadharshini and P. Aishwarya (2023)³ : The literature review highlights key insights into electric vehicle (EV) adoption, focusing on consumer awareness, infrastructure, and policy influences. According to the National Highway Travel Survey (2021), EVs, including Battery Electric Vehicles (BEVs) and Plug-in Hybrid Electric Vehicles (PHEVs).

STATEMENT OF THE PROBLEM

While Electric Cars are gaining popularity globally, their adoption in Coimbatore remains relatively low compared to traditional ICE Cars. This study addresses the problem of understanding why customers in Coimbatore are hesitant to fully embrace electric cars despite the benefits, focusing on the factors influencing customer behaviour, such as pricing, availability of charging infrastructure, and environmental awareness.

SCOPE OF THE STUDY

This study is limited to understanding customer preferences between ICE and electric cars in Coimbatore. It focuses on the various factors that influence purchasing decisions, including environmental concerns, cost factors, awareness of electric technology, and government policies. The study includes both current vehicle owners and potential buyers in Coimbatore.

OBJECTIVE OF THE STUDY

1. To assess customer awareness about Electric cars and Internal Combustion Engine (ICE) Cars in Coimbatore.
2. To analyze the factors influencing the preference for electric and ICE Cars among customers.
3. To understand the problem in the adoption of electric cars.

RESEARCH METHODOLOGY

This research will adopt a quantitative approach, using surveys as the primary data collection method. The target respondents will include current car owners and potential car buyers in Coimbatore. Data will be collected through structured questionnaires that focus on factors such as car preference, environmental concerns, cost considerations, and the availability of charging infrastructure.

RESEARCH DESIGN

- **Sampling size:** 120 Respondents
 - **Sampling Technique:** Convenience Sampling Technique
 - **Statistical Tools used:** Percentage Analysis, Ranking Analysis, Likert Scale Analysis.
 - **Primary data:** Collected 120 respondents.
 - **Secondary data:** Journal , books and websites.
- LIMITATIONS OF THE STUDY**
- While the study focuses on customer preferences in Coimbatore, it is limited to the respondents who voluntarily participated in the survey. Additionally, the study may be influenced by factors such as limited awareness about electric cars and subjective responses.
 - The sample size (120 respondents) might not adequately represent the diversity of the whole Coimbatore population, despite the fact that a stratified random sampling technique will be employed.
 - The results' ability to be applied broadly may be limited by the sample's potential bias towards particular demographic groups.

FINDING AND INTERPRETATION SIMPLE

PERCENTAGE ANALYSIS:

Percentage = Number Of Respondents/ Total Number Of Respondent * 100

INTERROGATION	RESPONSE	FREQUENCY	PERCENTAGE
Electric Car Purchase Consideration with Improved Infrastructure in Coimbatore	Yes	44	36.7
	No	38	31.7
	Maybe	38	31.7
	TOTAL	120	100
Respondents' Awareness of Govt Subsidies for Electric Cars	Yes	46	38.3%
	No	74	61.7%
	TOTAL	120	100
Electric Car Adoption with Increased Charging Stations in Coimbatore	Yes	27	22.5%

	No	24	20%
	Maybe	69	57.5%
	TOTAL	120	100
Respondents' Perception of EV Charging Convenience in Coimbatore	Very convenient	29	24.2
	Somewhat convenient	36	30
	Not convenient at all	33	27.5
	Don't know	22	18.3
	TOTAL	120	100

INTERPRETATION

The survey reveals that 36.7% of respondents in Coimbatore would consider buying an electric car with better infrastructure, while awareness of government subsidies remains low at 38.3%. Only 22.5% are ready to adopt EVs with more charging stations, though 57.5% are undecided. Charging convenience perceptions are mixed, with 24.2% finding it very convenient and 27.5% not convenient at all. Overall, interest exists, but adoption is limited by infrastructure gaps, low awareness, and charging concerns.

RANKING ANALYSIS:

TABLE SHOWING FACTORS INFLUENCE TO MAKE CAR PURCHASE DECISION BY THE RESPONDENTS

S.NO	ASPECT	NO.OF.RESPONDENTS	PERCENTAGE (%)	RANK
1	Price	84	70	I
2	Technology & features	65	65	II
3	Fuel efficiency/running cost	58	48.3	III
4	Brand reputation	42	35	IV

5	Environmental impact	33	27.5	V
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INTERPRETATION

The above table indicates that 70%(84) of respondents are influenced by price as Rank I, whereas the another 54.2%(65) of respondents get influenced by technology and features as Rank II while 48.3%(58) get influenced by running cost and around as Rank III, 35%(42) feel brand reputation as influencing factor and finally around as Rank IV and 27.5%(33) think about environmental impact as Rank V.

SUGGESTION

To increase awareness and acceptance, start efforts to educate customers about government subsidies and the advantages of electric cars for the environment. To reduce range anxiety and encourage the use of electric cars, Coimbatore should increase the number of charging stations throughout the city. Encourage automakers to produce more reasonably priced electric car models and make use of government subsidies to increase their accessibility. By concentrating on advancements to improve battery technology, lifespan problems and replacement prices can be greatly decreased, leading to more economical and environmentally friendly alternatives. Marketing that highlights the special qualities of electric cars, such as their silent operation and lower operating costs, can draw in a larger customer base.

CONCLUSION

ICE cars dominate ownership due to their affordability and established infrastructure. However, interest in electric cars is growing, driven by lower operational costs and environmental benefits. It is being observed that the high costs and inadequate charging infrastructure are major obstacles for the customers to switch from ICE to electric cars. According to my research result, the customer's priorities include convenience in refueling and competitive pricing, with concerns over environmental impact gaining attention.

REFERENCE

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