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A Study On Factors Affecting Hybrid Car Purchase Decisions With Special Reference To Coimbatore City

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ABSTRACT

When fuel prices rise and environmental pollution turns into a crying need, hybrids have become an economically viable substitute for conventional gasoline cars. Hybrid technology combines electric motors and internal combustion engines to provide efficiency with low emissions. The present research effort tries to investigate the extent of awareness and satisfaction of hybrid car owners within the city of Coimbatore. It formulates the main determinant factors, disadvantages, and extent of increase in adoption by consumers.

Key Words: Hybrid Cars, Fuel Efficiency, Customer Satisfaction, Awareness, Green Mobility.

INTRODUCTION

Hybrid cars, which use electric motors and conventional combustion engines, are a step in the direction of green mobility. With increasing worries about air pollution, climate change, and the consumption of fossil fuels, hybrid cars are the compromise between electric and conventional vehicles. Due to technological innovations and government policies such as FAME-II, hybrid adoption is picking up worldwide. In India, cities such as Coimbatore are slowly adopting this trend. Yet, pricing, awareness, and infrastructure continue to dictate market penetration.

STATEMENT OF THE PROBLEM

Although eco-friendly and fuel-efficient, hybrid vehicles experience sluggish uptake in Coimbatore because of high purchase prices, lack of awareness, and uncertainty regarding maintenance. This research aims to provide answers to:

1. How much consumer awareness exists regarding hybrid vehicles in the city of Coimbatore?
2. What are the key drivers of, or drivers away from, their purchase decisions?

SCOPE OF THE STUDY

This research aims to examine customer awareness and level of satisfaction toward hybrid cars in Coimbatore city and determine adoption difficulties and possibilities.

OBJECTIVE OF THE STUDY

- To measure customer awareness towards hybrid cars.
- To examine satisfaction with the attributes of hybrid cars.
- To determine challenges and concerns hindering the adoption of hybrid cars.
- To learn the influence of environmental awareness on buying behaviour.

RESEARCH METHODOLOGY

Research methodology is the overall plan for conducting a research project. It outlines the steps that will be taken to collect and analyse data, as well as the theoretical framework that will guide the research.

RESEARCH DESIGN

- **Sampling size:** 110 Respondents
- **Sampling Technique:** Convenience Sampling Technique
- **Statistical Tools used:** Percentage Analysis, Ranking Analysis, Likert Scale Analysis.
- **Primary data:** Questionnaires (Collected 110 respondents)
- **Secondary data:** Journal , books and websites.

LIMITATIONS OF THE STUDY

- This study is limited to Coimbatore city.
- The sample size is limited to 110 respondents.
- Results are self-reported data, which may have bias.
- Results may not represent the entire hybrid car population in India.

FINDING AND INTERPRETATION

SIMPLE PERCENTAGE ANALYSIS:

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

INTERROGATION	RESPONSE	FREQUENCY	PERCENTAGE
Hybrid car reduce population	Yes	58	52.7%
	Not sure	23	20.9%
	No	29	26.4%
	Total	110	100%
Hybrid cars are a benefit to Environment.	Yes	51	46.4%
	Maybe	37	33.6%
	No	22	20%
	Total	110	100%
Price Of The Hybrid Car	Below ₹10 lakhs	12	10.9%
	₹11 lakhs - ₹15 lakhs	36	32.7%
	₹16 lakhs - ₹20 lakhs	54	49.1%
	Above ₹20 lakhs	8	7.3%
	Total	110	100%

Hybrid Car are Cost-Effective In The Long Run Due To Fuel Savings	Yes	53	53.6%
	No	18	16.4%
	Not sure	33	30%
	Total	110	100%
	TOTAL	110	100

INTERPRETATION:

The survey reveals that over half of the respondents (52.7%) believe hybrid cars help reduce pollution, and 46.4% agree they benefit the environment, though a significant number remain unsure. Price-wise, the majority (49.1%) prefer hybrid cars priced between ₹16–₹20 lakhs, indicating this as the most acceptable range. Additionally, 53.6% feel hybrid cars are cost-effective in the long run due to fuel savings, although 30% are uncertain. Overall, there is moderate awareness and support for hybrid cars, with cost and long-term value being key considerations for potential buyers.

RANKING ANALYSIS:

TABLE SHOWING CHALLENGES ABOUT BUYING A HYBRID CAR

S.NO	BUYING A HYBRID CARS	RANK 1	RANK 2	RANK 3	RANK 4	RANK 5	TOTAL	RANK
1	High initial cost	72(5) 375	11(4) 44	12(3) 36	8(2) 16	7(1) 7	478	1th
2	Availability of charging stations	30(5) 150	55(4) 220	17(3) 51	7(2) 14	1(1) 1	434	2th
3	Lack of awareness	17(5) 85	45(4) 225	32(3) 96	11(2) 22	5(1) 5	433	3th
4	Maintenance issues	34(5) 170	36(4) 144	26(3) 78	10(2) 20	4(1) 4	416	4 th
5	Performance compared to conventional cars	27(5) 135	43(4) 172	24(3) 72	10(2) 20	6(1) 6	405	5th

INTERPRETATION

The table presents the major challenges associated with buying a hybrid car, ranked based on their significance. The most significant challenge is the high initial cost, which received the highest total score

(478), indicating that affordability is a major barrier. The availability of charging stations ranks second (434), showing that infrastructure limitations significantly impact consumer decisions. Lack of awareness follows closely (433), suggesting that many potential buyers are not well-informed about hybrid vehicles. Maintenance issues (416) and performance compared to conventional cars (405) are also concerns but are ranked lower.

LIKERT SCALE ANALYSIS

$$\text{Likert Scale} = \frac{\sum (F \times X)}{\text{TOTAL NUMBER OF RESPONDENTS}} * 100$$

S.No	Aspect	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Likert Scale Score
1	Fuel Efficiency	64	30	11	3	2	4.37
2	Environmental Friendliness	31	53	20	3	3	3.96
3	Maintenance Costs	46	36	15	7	6	3.99
4	Driving Comfort	30	45	15	1	1	3.36
5	Technology Features	49	39	17	4	1	4.19
6	Battery Life & Charging Efficiency	35	47	18	7	3	3.94
7	Resale Value	29	47	23	7	4	3.81

INTERPRETATION

The data shows that fuel efficiency received the highest satisfaction score (4.37), closely followed by technology features (4.19) and maintenance costs (3.99). Environmental friendliness (3.96) and battery life & charging efficiency (3.94) were also positively perceived. Resale value received a slightly lower score (3.81), and driving comfort had the lowest satisfaction (3.36), though still moderate. Overall, respondents show a strong positive sentiment toward hybrid car features, particularly in terms of fuel efficiency and technology.

SUGGESTION

To encourage greater use of hybrid vehicles in Coimbatore, governments and manufacturers need to target greater customer awareness through advertising campaigns emphasizing long-term fuel efficiency, environmental advantage, and affordability. Effective communication of battery life, maintenance costs, and resale value can eliminate typical myths. Government incentives in the shape of subsidies, tax credits, and low-cost financing will enable hybrids to fall within the price range of middle-class consumers. Additional charging stations, extended warranties, and test drives can also increase customer confidence.

Providing hybrid models competitively priced in the ₹11–15 lakh segment would also promote wider market acceptance.

CONCLUSION

The study reveals a positive level of interest and satisfaction towards hybrid vehicles among Coimbatore consumers. While fuel efficiency and eco-friendliness are valued, barriers in the shape of cost, maintenance myths, and inadequate infrastructure check the large-scale adoption. Addressing these issues by actions from the industry and policymakers can set hybrid cars on the course of being a mass mobility solution in India's future green scheme.

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