"A Study on the Awareness and Perception of Electric Vehicle Adoption Among Students at Davangere University"

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Abstract

Students' knowledge of the economic and environmental advantages of electric Vehicle (EVs) is investigated in this study. It seeks to assess their degree of familiarity with cost reductions, government subsidies, and lessened environmental effect. Furthermore, the study explores how students' educational backgrounds affect their comprehension of EV technology. Structured questionnaires from different Davangere University departments were used to gather data. The findings show a notable difference in awareness levels between disciplines. Results indicate that science and engineering students show a higher level of comprehension. The report suggests awareness campaigns to bridge knowledge gaps and encourage environmentally friendly transportation options. This study looks into how Davangere University students perceive and understand the adoption of electric vehicles (EVs). EVs are becoming essential substitutes for conventional fuel-based transportation in light of the world's environmental problems and the growing focus on sustainable development. The purpose of the study is to evaluate students' understanding of the economic and environmental benefits of electric vehicles (EVs), including their potential to lower pollution, cost effectiveness, and government incentives. The findings indicate that although charging stations and the advantages they offer the environment are well known, many students are not aware of government programs or ways to save money. According to the report, EV-related information should be incorporated into academic curricula, awareness campaigns, campus charging stations, and partnerships with EV companies for seminars and internships. The future generation can be better equipped to make wise choices and actively engage in India's green mobility revolution with the support of such initiatives.

The study also looks at how students' knowledge and views on EVs are influenced by their academic backgrounds, including science, management, the arts, and commerce. One hundred students from different disciplines were given a standardized questionnaire to complete in order to gather primary data. Using SPSS software, the research showed significant differences in awareness levels, with science and engineering students showing a greater understanding of EV technology and Infrastructure.

Key Words: Electric Vehicle, student Awareness, Environmental, Davangere University, Development, Knowledge.

1. INTRODUCTION

The globe has been shifting toward greener and cleaner modes of transportation in recent years. This is due to the limited supply of fuels like gasoline and diesel as well as the increase in pollution. Since they don't rely on fossil fuels and help reduce pollution, electric vehicles, or EVs, are quickly becoming a popular green choice. Through initiatives like the FAME Scheme (Faster Adoption and Manufacture of Hybrid and Electric Vehicles), the Indian government is also promoting the usage of EVs. However, government backing is not the only factor that makes EVs successful. It also depends on people's attitudes toward utilizing EVs and their level of knowledge about them. Young people are crucial prospective clients, particularly college students. Their perceptions and understanding of EVs may influence how quickly these cars proliferate.

Electric vehicles, or EVs, are gaining popularity as a more environmentally friendly substitute for traditional gasoline and diesel automobiles. The future of clean transportation is thought to be electric vehicles (EVs) due to increased environmental concerns, rising fuel prices, and government initiatives to cut carbon emissions. Global EV sales in 2023 topped 14 million, a 35% increase over 2022, according to the International Energy Agency (IEA). More than 15 EVs were registered in India as of March 2024, indicating a favourable adoption trend.

The purpose of this study is to determine the level of awareness, opinions, and readiness for use of electric vehicles among Davangere University students. It will examine their knowledge of the advantages and drawbacks of EVs as well as the things that would deter consumers from selecting one, such as excessive prices, a dearth of charging stations, or performance concerns. This study will assist businesses and the government in developing more effective awareness campaigns by gaining insight into the opinions of students. Additionally, it will contribute to the success of India's transition to greener and cleaner transportation. Because of this, the study is highly significant and helpful.

2. STATEMENT OF PROBLEM

Although they are crucial for advancing environmentally friendly transportation, electric vehicles (EVs) are still not widely used in India. Many young people, particularly those attending universities, are not properly aware of or comprehend EVs. Their readiness to embrace EVs may be impacted by misconceptions regarding price, functionality, and charging stations. There hasn't been any targeted research done at Davangere University to evaluate students' awareness and perception. The purpose of this study is to close that gap and pinpoint the major variables affecting students' adoption of EVs.

3. LITERATUR REVIEW

Trishu Sharma, (2023) Perceptions of EV adoption among Ahmedabad's young adults, ages 18 to 30, are investigated. 104 individuals participated in a quantitative survey that examines environmental concerns, peer pressure, and vehicle selection. Age did not significantly affect EV interest, according to the results, but technology and environmental consciousness did. When it came to EV infrastructure, urban youngsters were more exposed than their rural counterparts. While peer and promotional factors were not shown to differ by gender, vehicle preferences were. The results highlight the necessity of enhanced infrastructure and concentrated, environmentally friendly marketing in order to increase EV adoption.

Hari Krishnan B, Dr. A. Vini. (2025) The study investigates the attitudes, perceptions, and awareness of consumers regarding electric vehicles (EVs). It highlights the main drivers, such as cost-effectiveness and environmental advantages, as well as the obstacles, such as range anxiety and inadequate charging infrastructure. 104 respondents, the majority of whom were students, provided primary data. The primary source of knowledge about EVs is now social media. To encourage EV adoption, the study recommends enhancing government incentives and awareness campaigns.

Godwin Yakubu, (2024) The report looks into the main problems influencing the transportation industry's adoption of electric vehicles (EVs). It points out obstacles like high upfront costs, a dearth of infrastructure for charging, and scepticism from customers. The necessity of public-private partnerships and government incentives is emphasized in policy suggestions. Long-term financial savings and environmental advantages are emphasized as adoption motivators. In order to overcome reluctance and hasten the adoption of EVs, the report recommends strategic planning and awareness efforts.

Iram Chowdary, Ashef Munir, (2025) The study investigates young people's perceptions and awareness of electric cars (EVs) in Bangladesh. Although interest is growing, there are still knowledge gaps and financial concerns, according to survey results. Respondents support more government subsidies and acknowledge the environmental advantages of EVs. Two of the biggest obstacles to adoption are still range anxiety and a lack of charging infrastructure. To increase EV adoption, the study suggests legislative backing, educational initiatives, and technology advancements.

Hitarth Mehta, Lakshita Rathod, (2023) This research uses a structured questionnaire to investigate Ahmedabad residents aged 18 to 30's attitudes on EV adoption. Peer pressure, vehicle preference, technology developments, environmental concerns, and promotional impact are some of the important aspects examined. Age has no discernible impact on impressions, according to the findings, although gender has an impact on some factors, such as preferred vehicles. EV adoption intent is more influenced by technological advancements and environmental consciousness. The study recommends enhanced infrastructure and focused young marketing to increase EV adoption.

Reena Malik, Ambuj Sharma, (2022) The study investigates the ways in which educational establishments, particularly community colleges such as Chitkara University, help raise students' knowledge of electric vehicles (EVs) and environmental challenges. Both students and professors have a reasonable awareness of environmental issues, according to research conducted through qualitative methodologies and interviews. Through specialized classes, workshops, and sustainable campus activities, the university incorporates environmental teaching and encourages electric vehicles. With their increasing inclination to embrace environmentally friendly modes of transportation, students are viewed as potential influencers. The study emphasizes how important education is in influencing EV adoption and sustainable behaviour.

Sharon Mary, (2025) The study uses a quantitative technique to examine how Bangalore college students see and use electric cars (EVs). The findings indicate a favourable trend toward EVs, but actual use is still low because of infrastructural issues and a lack of knowledge about government incentives. The greatest propensity to adopt EVs is shown by students between the ages of 18 and 21. The likelihood of making a subsequent purchase is greatly increased by familiarity with EVs. The relationship between age and EV adoption is modest and not statistically significant. To increase adoption rates, the report suggests focused incentives, better charging infrastructure, and awareness campaigns.

4. RESEARCH GAP

The knowledge and adoption of electric vehicles (EVs) have been the subject of numerous national and international studies; the majority of them have concentrated on urban populations, working professionals, or general consumers. University students, who make up the next generation of potential EV users, are the subject of relatively few research. Additionally, there hasn't been any thorough study done at Davangere University to find out how alert, perceptive, and prepared students are to embrace electric automobiles.

Additionally, the literature that is now available has mostly ignored the impact that academic backgrounds—such as those in science, business, or the arts—have on EV knowledge. This study closes that gap by examining students from a range of academic fields and determining the main obstacles and driving forces behind their opinions on electric vehicles.

5. OBJECTIVES

1. To assess students' knowledge of the financial and environmental benefits of electric vehicles.
2. To look into how students' knowledge and comprehension of electric vehicles are influenced by their academic fields.

6. HYPPOTHESIS

1. H_0: Students have a good understanding of the economic and ecological advantages of electric cars.
H_1: Students are not very aware of the economic and environmental advantages of electric cars.
2. H_0: Students' knowledge and comprehension of electric vehicles vary greatly depending on the subject they are studying.
H_1: Students' academic subjects do not substantially affect their knowledge and comprehension of electric vehicles.

7. NEED FOR THE STUDY

Electric vehicles (EVs) are quickly emerging as a vital substitute for conventional fuel-based transportation due to the increased emphasis on sustainability around the world. Since students will be the consumers and decision-makers of the future, it is crucial to understand their awareness of EVs. There is a lack of information regarding how educational backgrounds influence comprehension of EVs. Designing successful awareness-raising and instructional initiatives can be aided by this analysis. Additionally, it facilitates the creation of focused policy efforts. Therefore, this study is crucial for encouraging young people to adopt EVs in an informed manner.

8. RESEARH METHODOLOGY

The study article that examines students' awareness and perceptions about the adoption of electric vehicles includes research methods.

Research Design: This research study is descriptive in nature. It indicates that the study's purpose is to characterize students' knowledge and attitudes toward electric automobiles.

Data Collection: A systematic questionnaire with both multiple-choice and closed-ended questions was used to gather primary data. Journals, official documents, and internet sources were used to collect secondary data.

Sample size: 100 respondents.

Scope and Limitations: The study is limited to students of Davangere University only.

Data analysis and techniques: Students' awareness levels and perceptions across several academic streams are interpreted through the use of charts, comparative tables, and percentage analysis.

Tools used for Data Analysis: SPSS software used

9. DATA ANALYSIS AND INERPRETATION

Demographic Profile for the Respondents

Variable	Category	Frequency	Percentage
Age	18-20	3	3%
	21-22	43	43%
	23-24	42	42%
	25-26	12	12%
Gender	Male	44	44%
	Female	56	56%
Education Level	Under Graduation	15	15%
	Post Graduation	85	85%
Department	Management	66	66%
	Science	9	9%
	Arts	4	4%
	Commerce	21	21%
Income	Below ₹10,000	26	26%
	₹10,000–₹25,000	35	35%
	₹25,001–₹50,000	18	18%
	Above ₹50,000	21	21%

Source: Primary Data

		Age of the respondents	Gender	Income	Education	Department	Vehicle
N	Valid	100	100	100	100	100	100
	Missing	0	0	0	0	0	0
Mean		2.630	1.560	2.340	1.150	1.800	2.500
Median		3.000	2.000	2.000	1.000	1.000	2.000
Mode		2.0	2.0	2.0	1.0	1.0	2.0
Minimum		1.0	1.0	1.0	1.0	1.0	1.0
Maximum		4.0	2.0	4.0	2.0	4.0	4.0
Sum		263.0	156.0	234.0	115.0	180.0	250.0

Source: Primary Data

Interpretation: One hundred valid responses with no missing data were included in the study. The majority of respondents are youthful to middle-aged, as indicated by their average age of 2.63. The gender data indicates a little female predominance, with a mean of 1.56 and a mode of 2. With a mean of 2.34, income levels are primarily in the lower-middle range. With the majority of respondents falling into the lowest category (mean 1.15), education levels are typically low. Although replies are dispersed over four departments, the majority of participants are from department 1. With a mean score of 2.5, automobile data indicates that mid-range cars (category 2) are most frequently utilized or favoured.

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
How often do you charge stations in your city?	23.631	99	.000	2.2800	2.089	2.471

Source: Primary Data

Interpretation: People do not visit the charging point; people visit the charging point to charge the Vehicles. It says that people visit, .000 reject the null Hypothesis, we accept the alternative Hypothesis.

10. FINDINGS

1. Frequent Charging Behavior: Using EV charging stations in their city was indicated by respondents with a substantial average frequency (mean = 2.28), suggesting regular usage.
2. Statistical Significance: The one-sample t-test result ($t = 23.631$, $p < .001$) demonstrates active interaction with EV infrastructure and validates that the frequency of charging is significantly different from zero.
3. Data Confidence: The result is accurate and dependable because the 95% CI (2.089 to 2.471) displays a tight range.

11. SUGGESTIONS

1. Launch awareness campaigns to inform university students about the features and advantages of electric cars.
2. Add information about EVs to academic courses in all fields, including as science, business, and the arts. Students' knowledge of environmentally friendly transportation technologies will improve as a result of this integration.
3. Work together with EV businesses to offer seminars, internships, and practical experience.
4. Encourage students to work with faculty members on EV-related projects and research. It greatly aids in creativity and a more thorough comprehension of the topic.
5. The establishment of EV charging stations on college campuses is advised. Students' adoption and exposure to real-world situations may be encouraged by this program.

12. CONCLUSION

Making the switch to electric vehicles (EVs) is essential to creating a future that is environmentally benign and sustainable. This study demonstrates how Davangere University students now perceive and understand EV adoption. The results show that although many students understand the economic and environmental advantages of electric vehicles, there are still significant knowledge gaps, especially when it comes to government programs, long-term cost reductions, and charging infrastructure.

All things considered, the study highlights the necessity of focused awareness campaigns, enhanced information availability, and campus-level programs to inform students about electric mobility. In the end, this can enhance India's efforts towards sustainable development and clean transportation by encouraging good attitudes and preparedness among young people. Making the transition to electric vehicles (EVs) is crucial to building a sustainable and ecologically friendly future. This study illustrates how students at Davangere University now view and comprehend the adoption of EVs. The findings demonstrate that even while a large number of students are aware of the financial and environmental benefits of electric vehicles, there are still a lot of unanswered questions, especially about government programs, long-term cost advantages, and the accessibility of charging infrastructure.

Additionally, the results demonstrate that awareness levels vary by academic subject, with students from science and engineering backgrounds being more familiar with EV technology than those from the arts or business. These findings highlight how crucial it is to implement customized awareness campaigns and incorporate EV-related material into university courses. The study's overall findings highlight the necessity of doable actions including informational campaigns, collaborations with EV manufacturers, campus-level infrastructure like charging stations, and awareness campaigns. In addition to significantly advancing India's goal of clean, green, and sustainable mobility, such initiatives can improve students' attitudes and preparedness for EV adoption.

13. REFERENCE

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