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YOUTH ATTITUDE TOWARDS EV TECHNOLOGY AND SUSTAINABILITY

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ABSTRACT

Electric Vehicles (EVs) are gaining importance worldwide as an environmentally friendly alternative to conventional fuel-based vehicles. The increasing concern about environmental pollution, rising fuel prices, and the need for sustainable transportation have encouraged the adoption of EV technology. Youth play a significant role in shaping the future of the automobile industry because they are more open to technological innovations and environmentally responsible practices. This study focuses on understanding the attitude of youth toward EV technology and sustainability. It examines their awareness, perception, and willingness to adopt electric vehicles as a sustainable mode of transportation. The study also identifies the factors that influence their adoption decisions, such as environmental concern, cost effectiveness, technological advancement, and charging infrastructure availability. Data for the study is collected through a structured questionnaire from respondents belonging to different age groups of youth. The findings of the study help to understand how young consumers perceive electric vehicles and how their attitudes contribute to promoting sustainable mobility. The research also highlights the need for increasing awareness and improving infrastructure to encourage wider adoption of EVs among youth.

KEYWORDS: *Electric Vehicles (EVs), Youth Attitude, Sustainability, Green Transportation, Environmental Awareness, EV Adoption, Sustainable Mobility, Technology Acceptance.*

INTRODUCTION

The automobile sector around the globe is currently witnessing a transformation with the adoption of Electric Vehicles in a short span of time. Electric vehicles are termed so because these vehicles run on electricity instead of the normal fuel source like gasoline or petrol. This gives the vehicles an environmentally friendly characteristic, thus making them sustainable vehicles. Higher fuel costs and air pollution due to vehicles have resulted in the development of sustainable vehicles.

Youths are equally important in determining the future of the automotive industry because they are more receptive to technology and environmentally conscious than other generations. Today's youth are quite conscious and concerned about issues associated with sustainability in a global context, such as carbon emissions, pollution, and energy conservation. Their attitude and behaviour towards electric vehicles shape the future of EV technology being used in the automotive industry.

STATEMENT OF THE PROBLEM

The increasing environmental challenges such as air pollution, climate change, and depletion of fossil fuels have created an urgent need for sustainable transportation solutions. Electric Vehicle (EV) technology is considered one of the most effective alternatives to conventional fuel-powered vehicles. Governments across the world, including India, are promoting EV adoption through initiatives like the FAME India Scheme. Despite these efforts, the adoption rate of electric vehicles among young consumers remains inconsistent.

Youth represent a major segment of potential consumers and future decision-makers. Although they are generally more aware of environmental issues and sustainability concepts, their actual willingness to adopt EV technology may be influenced by several factors such as high purchase cost, limited charging infrastructure, battery performance concerns, lack of technical knowledge, and social perceptions.

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REVIEW OF LITERATURE

YEAR	TITLE	AUTHOR	RESEARCH METHODOLOGY	FINDINGS
2023	Consumers' Adoption of ElectricVehicles for Sustainability: Exploring the Role of Personality Traits	Sofi Dinesh & Suddhachit Mitra	Survey method; 150 respondents; regression analysis	Personality traits and sustainability awareness positively influence EV purchase intention.
2024	Students' Attitudes Towards Electric Vehicles: Analyzing the Factors Influencing Adoption	Dr. E. M. Naresh Babuet al.	Questionnaire survey among college students; descriptive statistics	Students show positive attitude; cost saving and environmental benefits are major influencing factors.
2024	Perceptions of Electric Vehicle Adoption among Young Adults in Ahmedabad	Hitarth Mehta et al.	Structured questionnaire; ANOVA test	Youth awareness about sustainability increases positive perception towards EV technology.
2025	Exploring Youth Intentions to Purchase Electric and Hybrid Vehicles	A. Al-Khaled et al.	Structural Equation Modeling (SEM)	Moral norms and environmental concern strongly influence youth intention to purchase EVs.
2025	Electric Vehicle Adoption: A Systematic Review	Srinivasan U &Vadivel S.M	Review of 55 research articles	Technological awareness, infrastructure, and government incentives play a key role in youth EV adoption.

OBJECTIVES OF THE STUDY

1.To understand the level of awareness among youth about Electric Vehicle (EV) technology, analyze their attitudes towards sustainability and eco-friendly transportation, and examine their willingness to adopt electric vehicles in the future.

2.This study aims to evaluate how environmental awareness and perceptions of EV technology influence young people's acceptance and intention to support sustainable mobility.

RESEARCH METHODOLOGY

Area of Study: Coimbatore City
Sampling Technique: Convenient sampling technique
Sample Size: 101 respondents
Period of Study: December 2025 – February 2026.

RESULTS & DISCUSSION

DEMGRAPHIC PROFILE OF THE RESPONDENTS

The following table 4.1 predicts the demographic profile of the respondents

Table 4.1
Gender of the Respondents

Demographic profile		Frequency	Percent
Gender	Male	66	65.3
	Female	35	34.7
Age	15-18 years	14	13.9
	19-22years	56	55.4
	23-26 years	22	22.8
	27-30 years	9	8.9
Educational level	School	8	7.9
	Undergraduate	62	61.4
	Postgraduate	22	21.8
	others	9	8.9
Area of residence	urban	39	38.6
	Semi-urban	39	38.6
	rural	23	22.8

Gender

Out of the total respondents, **66 (65.3%) are male** and **35 (34.7%) are female**. This indicates that the majority of respondents in the study are male participants, suggesting that male youth formed a larger portion of the sample compared to female respondents.

Age

The age distribution shows that **56 respondents (55.4%) belong to the 19–22 years age group**, which represents the majority of the sample. **22 respondents (22.8%) are in the 23–26 years age group**, while **14 respondents (13.9%) fall within the 15–18 years category**. The remaining **9 respondents (8.9%) are in the 27–30 years age group**. This indicates that

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most respondents are young adults between **19 and 22 years**, reflecting the focus on youth perspectives.

Educational Level: Regarding educational qualification, **62 respondents (61.4%) are undergraduate students**, forming the largest group. **22 respondents (21.8%) are postgraduates**, **8 respondents (7.9%) are school-level students**, and **9 respondents (8.9%) fall under other educational categories**. This shows that the majority of participants are currently pursuing undergraduate education.

Area of Residence: With respect to residential background, **39 respondents (38.6%) belong to urban areas**, **39 respondents (38.6%) belong to semi-urban areas**, and **23 respondents (22.8%) are from rural areas**. This indicates that urban and semi-urban respondents are equally represented in the study, while rural respondents form a smaller proportion.

TABLE NO: 4.2
PRIMARY SOURCE OF INFORMATION ABOUT EVs

S.NO	PRIMARY SOURCE OF INFORMATION ABOUT EVs	FREQUENCY	PERCENT
1.	SOCIAL MEDIA	27	26.7
2.	TELIVISION/ NEWS	24	23.8
3.	FRIENDS/FAMILY	24	23.8
4.	ADVERTISEMENTS	20	19.8
5.	EDUCATIONAL INSTITUTIONS	6	5.9
	TOTAL	101	100.0

The table indicates that social media (26.7%) is the primary source of information about EVs among respondents, making it the most influential medium. Television/news and friends/family each account for 23.8%, showing that both mass media and personal networks play a significant role. Educational institutions contribute the least (5.9%), suggesting limited formal awareness initiatives regarding EV technology and sustainability.

HYPOTHESIS: There is a significant relationship between the primary source of information and awareness of Electric Vehicles among youth.

TABLE NO: 4.3
ATTITUDE TOWARDS SUSTAINABILITY

S.No	Feature		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
a)	SUSTAINABLE TRANSPORTATION	No.	14	27	26	9	25	101
		%	13.9	26.7	25.7	8.9	24.8	100
b)	SIGNIFICANTLY REDUCE ENVIRONMENTAL POLLUTION	No.	20	31	19	20	11	101
		%	19.8	30.7	18.8	19.8	10.9	100
c)	IMPROVE AIR QUALITY	No.	16	28	32	8	17	101
		%	15.8	27.7	31.7	7.9	16.8	100
d)	ECO-FRIENDLY VEHICLES ACTIVELY PROMOTED	No.	17	26	27	18	13	101
		%	16.8	25.7	26.7	17.8	12.9	100
e)	ENVIRONMENTAL SUSTAINABILITY	No.	16	33	24	12	16	101
		%	15.8	32.7	23.8	11.9	15.8	100

The table shows the respondents' attitudes toward sustainability related to Electric Vehicles. A majority of respondents agree that EVs help in reducing environmental pollution (30.7%) and support environmental sustainability (32.7%). Many respondents also believe that sustainable transportation is important, with 26.7% agreeing. Regarding improving air quality, a large portion of respondents remain neutral (31.7%), indicating mixed opinions.

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TABLE NO: 4.4
WILLINGNESS TO ADOPT

S. No	Feature		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
a)	PRACTICAL SOLUTION FOR DAILY TRANSPORTATION NEEDS	No.	11	28	28	10	24	101
		%	10.9	27.7	27.7	9.9	23.8	100
b)	COST-EFFECTIVE	No.	8	22	33	25	13	101
		%	7.9	21.8	32.7	24.8	12.9	100
c)	BATTERY-LIFE AND REPLACEMENT COST	No.	10	26	33	10	22	101
		%	9.9	25.7	32.7	9.9	21.8	100
d)	LACK OF CHARGING INFRASTRUCTURE	No.	8	27	30.7	23	12	101
		%	8	26.7	30.7	22.8	11.9	100
e)	HIGHER INITIAL PRICES	No.	8	33	28	13	19	101
		%	7.9	32.7	27.7	12.9	18.8	100

The table shows the willingness of respondents to adopt Electric Vehicles for daily use. A considerable number of respondents agree that EVs are a **practical solution for daily transportation (27.7%)**, while many remain neutral. Regarding **cost-effectiveness**, the highest percentage of respondents are neutral (32.7%), indicating uncertainty about long-term savings. Concerns about **battery life and replacement cost** also show a high neutral response (32.7%), reflecting hesitation among respondents. Similarly, **lack of charging infrastructure and higher initial prices** are viewed as barriers to EV adoption.

CONCLUSION

The study concludes that youth have a generally positive attitude towards electric vehicle technology and its contribution to environmental sustainability. Many young people recognize the benefits of EVs such as reduced carbon emissions, lower fuel costs, and advanced technology features. However, some barriers like high initial cost, limited charging infrastructure, and lack of awareness still affect their willingness to adopt EVs. With increased government support, improved infrastructure, and greater awareness, electric vehicles are likely to gain more acceptance among youth in the future. Overall, youth play an important role in promoting sustainable transportation and supporting the shift towards eco-friendly mobility.

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