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ELECTRIC CAR – IS IT THE FIRST CHOICE OF POTENTIAL CAR BUYERS IN CHENNAI CITY?

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ABSTRACT:

Electric Cars though branded as Environment Friendly and Eco-Labelled product in the market; is not the first choice of Potential Car buyers in Chennai city. Survey undertaken among 164 Potential Car Buyers in Chennai city to determine their Preference towards E-Car and Factors influencing them to make Purchase decision. Results: Electric Car awareness is less (55%) even in Metropolitan City like Chennai; only 29% prefer to purchase Electric Car and more than 50% prefer Fuel Cars. Price & Fear of Technology are Major Factors influencing Chennai Consumers not to prefer E-Car as it is perceived as Luxury Product. Indians are very Price Conscious and Price Sensitive People; they hesitate spending particularly on Highly depreciable Product like Electric Car which have short life with no resale value. Stringent Measures to be made by Government like Banning Fuel Vehicles, High Tax /Fees for Fuel Vehicles to make consumers transform to Electric Vehicles.

Keywords: Electric Car, Environment, Air Pollution, Price, Sustainability, Technology.

Introduction:

Climatic Change & Sustainable Mobility through Electric Vehicles adoption is the mantra of Indian Government to fight the consequences of severe Air Pollution in Capital City Delhi making headlines in Newspaper and most debated in Indian Parliament in December 2025. Electric Cars though branded as Environment Friendly and Eco-Labelled product in the market; supported by government (Central & State) through attractive incentives and Subsidies is not the first choice of Potential Car buyers in Chennai city. Indians are conservative by nature. Transportation through Fuel Vehicles is deep-rooted in the minds of majority of Indians and are reluctant to accept and adopt new form of transportation irrespective of their Age, Gender, Education and Economic Status. Awareness about Electric Cars is found very less. Economical and Societal benefits associated with Electric Cars is found very less among Indians. Especially Women Consumers hesitate to prefer E-Cars and do not wish to change over from Fuel Cars.

Need for the Study:

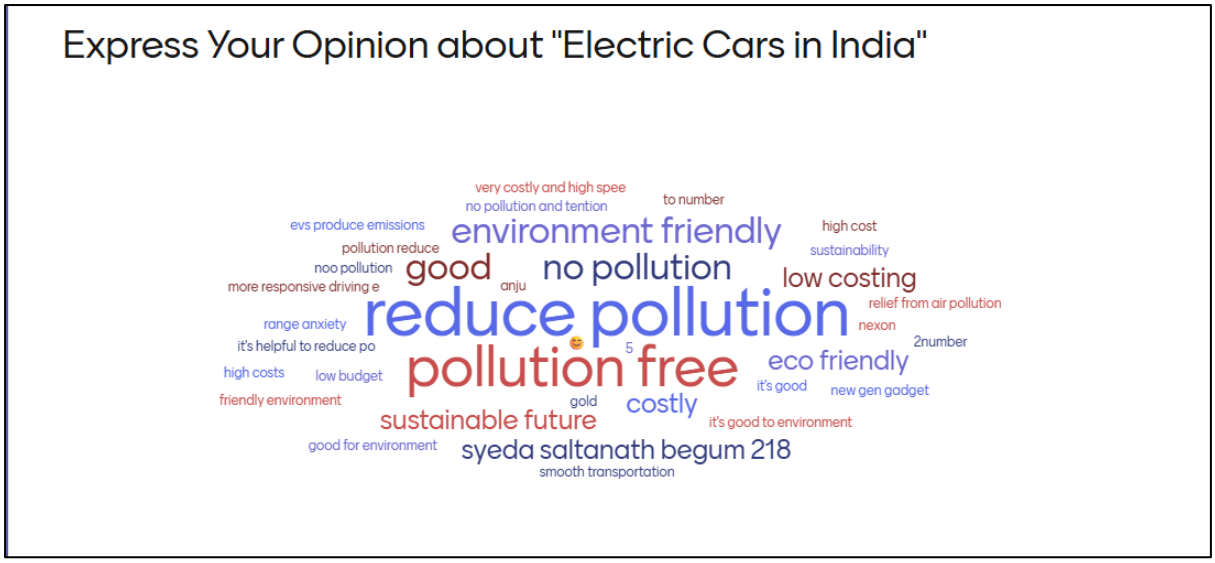
Air Pollution, Air Contamination, Air borne diseases, Climatic Change, are the major problem threatening the world, Particularly, very particularly Capital City, Major metropolitan cities in India due to its high pollution and increased fuel vehicles. Online Classes and Work from Home

are recommended in most air polluted cities are for their safety; and has disturbed their way of life leading to growing public protest for clean and safe cities in India. Indirectly, air pollution leads to big accidents in national highways leading to increased deaths. Subsequently, Air Transportation (many Domestic and International Passenger Flights are getting delayed and Cancelled from most air polluted city. Electric Vehicles is the alternate solution to Fuel vehicles globally. India is moving towards Electric Mobility; hence the study is the need of the hour.

Objectives of the Study:

1. To determine the Choice of Chennai Consumers in their preference to buy Electric Car over Fuel Car.
2. To identify factors which influence/ attracted potential car buyers to prefer E-Car.
3. To Study the impact of Demographic Profile (Gender, Age, Education) on their preference towards Electric Cars among Potential Car Buyers in Chennai city.
4. To list out the Challenges involved in Purchase of Electric Car
5. To Spell out the benefits of preferring Electric Car over Fuel Car.

Word Cloud for Electric Cars in India:



(Source: Mentimeter)

Review of Literature:

(Aakansha Dahiya, 2025) Green Products are the prime source to achieve SDG 12 (Sustainable Production & Consumption) for ecological Sustainability. Intention to Purchase Green Products are increasing. High Income Consumers are more likely to prefer Green Products as they are Premium Priced.

(Soumya, PM Modi inaugurates Maruti Suzuki's first EV plant, e Vitara Rolled Out, 2025) Maruti Suzuki also plans to set up Public Fast Charing Points in top 100 Cities in India within a span of 2-3 Years with a gap of every 5-10Km. Additionally, the company to strengthen

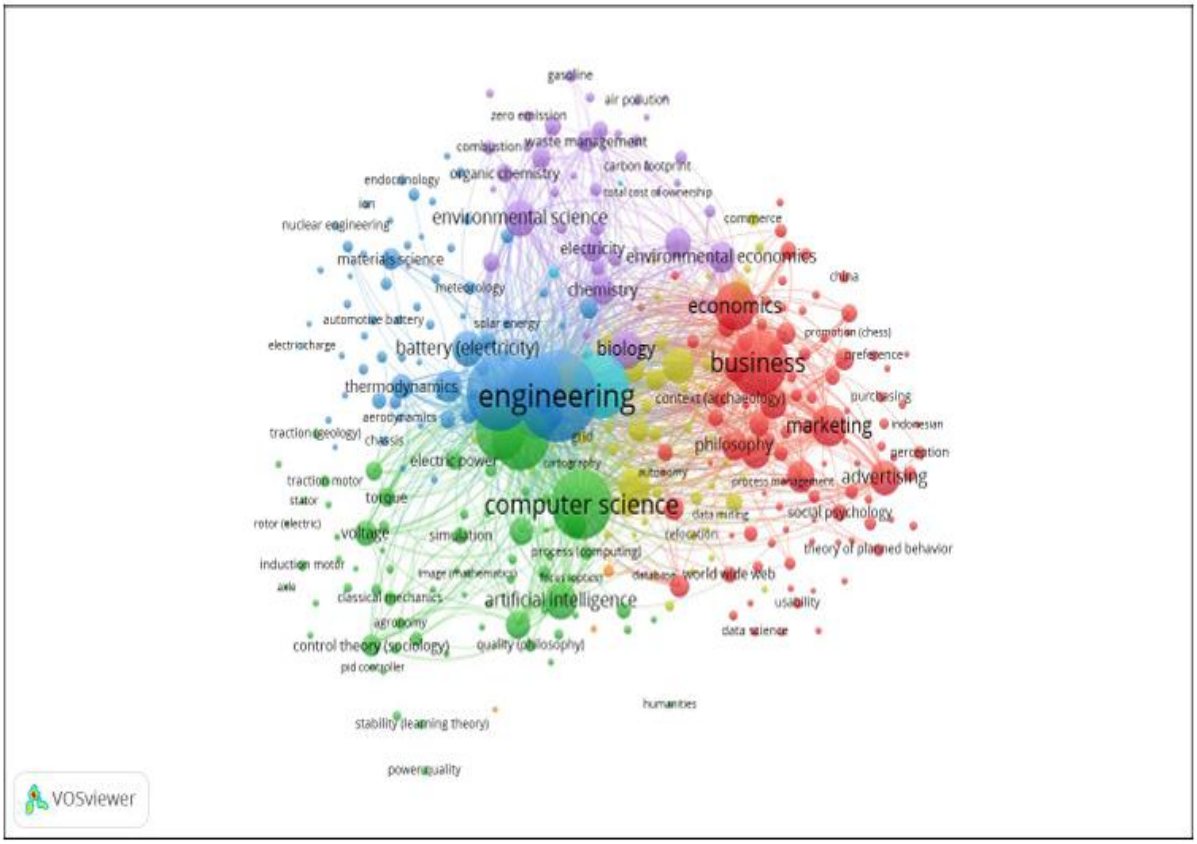
E-Car Service network, will establish 1,500 EV-ready workshops in more than 1,000 cities remain a revolution of India's transition to electric mobility.

(Alexander Muk, 2024) Adoption of Electric Vehicles is less than 1% of total car Sales even in world's most developed and Rich Country i.e., USA and Japan by the Year 2023. Consumers Environmental Concern alone does not make them to purchase an Electric Vehicle. (Alexander Muk, 2024)

(Rekha Attri, 2024) the study is conducted among 518 prospective buyers of new four-wheelers to identify factors influencing Indian Consumers to adopt Electric vehicles. The study highlights the importance of perceived risk in influencing consumer behaviour in the context of new technology.

(Soumya, Gujarat's Hansalpur Plant becomes nerve centre of Maruti Suzuki EV Journey, 2025) India's first Lithium-ion cell manufacturing plant (EV Plant) of Maruti Suzuki at Hansalpur, Gujarat was inaugurated by PM Modi on August 2025 is a historic milestone in the history of India in its move towards Clean Mobility and Sustainable Transportation. Additionally, the launch of Maruti Suzuki's first Battery Electric Car, "e-Vitara – Made in India, made for the World" remain a revolution of India's transition to electric mobility.

Network Visualisation for Electric Cars in India:

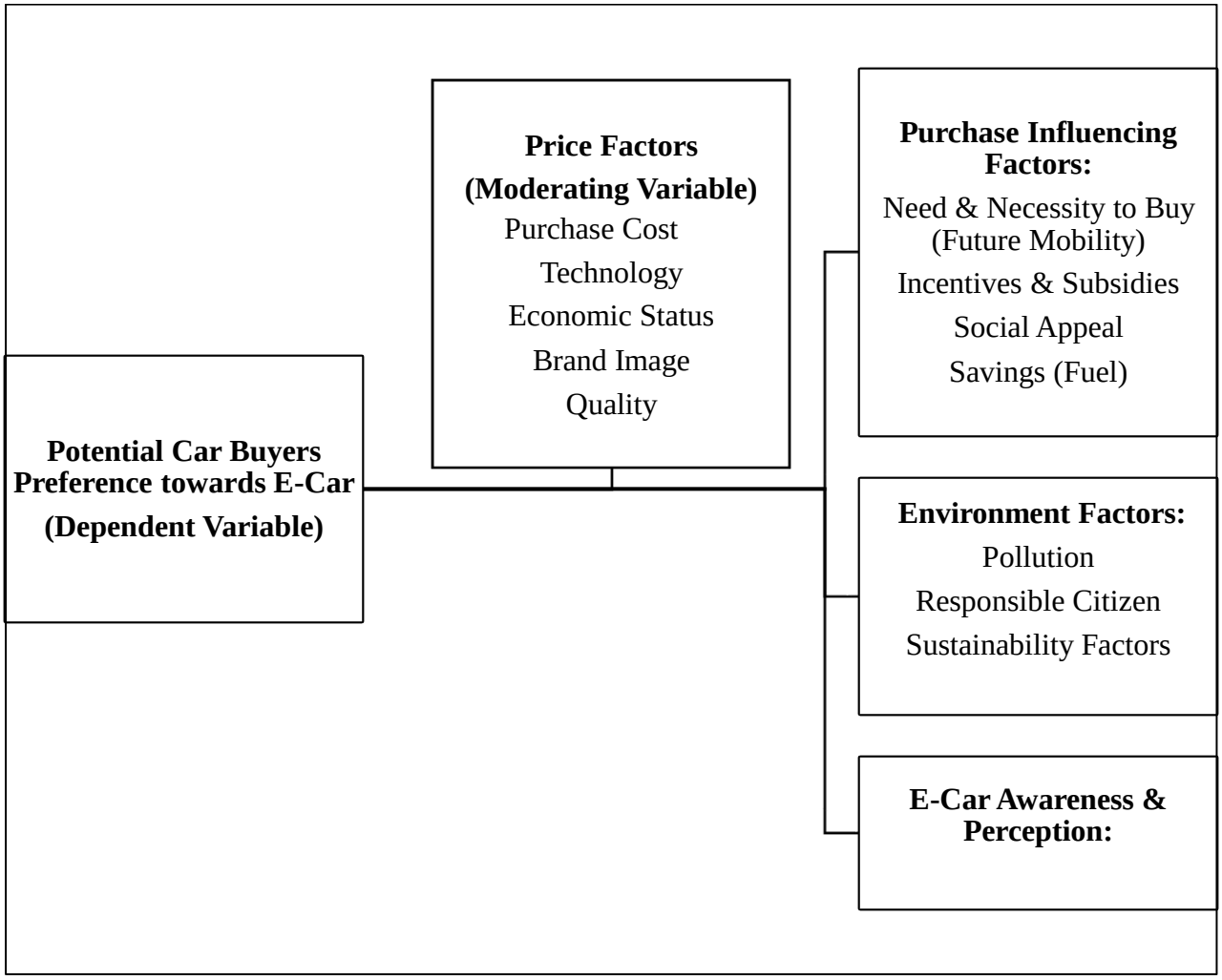


(Source: VOS viewer)

Research Methodology:

Data required for the study is collected from potential Car Buyers in Chennai City. Sample Size taken for the study is 164. Simple Random Sampling Technique is used for the study. Primary data for the study is collected using Questionnaire based survey Technique. Under Secondary Source, Government Reports, Websites & Schemes were tapped upon. Data Collection Period December 2025 to February 2026.

Conceptual Framework:



Scope of the Study:

The study is restricted only to studying Consumer preference among Potential Car buyers either they prefer to buy Electric Car or Fuel Car and factors associated in making that purchase decision. The study is restricted only to Chennai City.

Tables & Interpretation:

Table 1

Frequency Description of Demographic Variables of Respondents

Demographic Variables	Description	Number = 164	Percentage (%)
Gender	Male	121	74
	Female	43	26
Age	Below 30 Years	39	24
	30-50 Years	107	65
	Above 50 Years	18	11
Education Level	Graduate	45	27
	Post Graduate	32	20
	Professional	71	43
	Others	16	10
Monthly Income	Below 1 Lakh	21	12
	1 -2 Lakhs	42	26
	Above 2 Lakhs	101	62
Awareness on E-Car	Yes	91	55
	No	73	45

(Source: Questionnaire & Google Form)

Interpretation of Demographic Data:

It was inferred that, out of 164 Respondents in Chennai City, 74% are Male and 26% are Female Gender. Majority of respondents are in the Middle age group of (30-50 Years) 65% which goes along with Statistics of India's Population. 43% are Professionals, and 62% of respondents Monthly Income is above Rs.2 Lakhs.

Table - 2 - Table showing Consumers Preference to buy Electric Cars in Future

S. No	Particulars	No. of Respondents		Total (91)	Percentage (100%)
		Male	**Female**		
1.	I Prefer purchase of E-Cars	21	05	**26**	**28.65%**
2.	I Prefer to buy Fuel Car	29	17	**46**	**50.60%**
3.	Not Yet decided	17	02	**19**	**20.73%**
Total		**67**	**24**	**91**	**100%**

(Source: Questionnaire & Google Form)

Table -3- Table showing Factors influencing Chennai Consumers to prefer E- Car

S. No	Particulars	No. of Respondents (Out of 91)	Percentage (100%)
1	Status Symbol/ Luxury Product	51	**56.04%**
2	Future Transport of India	6	**6.59%**
3	New Product in the Market	9	**9.90%**
4	Stylish, Trending	13	14.29%
5	To Save Fuel Cost	8	8.80%
6	Eco-Friendly Product	4	4.39%
Total		**91**	**100%**

(Source: Questionnaire & Google Form)

Table – 4 – Table showing Challenges involved in Purchase of Electric Car

S. No	Particulars	No. of Respondents (Out of 91)	Percentage (100%)
1	Costly /Higher Priced	47	**51.65%**
2	Charging Stations not available	15	**16.48%**
3	Repair, Parts & Service not easy	11	12.08%
4	Short Life Span of Vehicle	10	10.99%
5	Long Hours of Charging	8	8.80%
Total		**91**	**100%**

(Source: Questionnaire & Google Form)

Table – 5 – Table showing benefits of preferring Electric Car

S. No	Particulars	No. of Respondents (Out of 91)	Percentage (100%)
1	To Save Money (Fuel, Maintenance)	23	25.27%
2	To Save Environment	8	8.79%
3	To avail Incentives & Subsidies	6	6.59%
4	Public Image / Reputation	16	17.58%
5	To use Upgraded Technology	27	29.67%
6.	Other Benefits	11	12.09%
Total		**91**	**100%**

(Source: Questionnaire & Google Form)

Statistical Analysis & Interpretations:

1.Mann-Whitney Test U Test

H_0: Their exist no significant difference between Gender of Potential Car Buyers and Factors influencing them to Purchase Electric Cars in Chennai.
H_1: Their exist significant difference between Gender of Potential Car Buyers and Factors influencing them to Purchase Electric Cars in Chennai.

Ranks

	Gender of Potential Car Buyers in Chennai	N	Mean Rank	Sum of Ranks
Factors influencing to Purchase Electric Car	Male	67	40.54	2716.18
	Female	24	31.83	763.92
	Total	91		

Test Statistics[a]

	Factors influencing to Purchase E-Car
Mann-Whitney U	578.65
Wilcoxon W	2716.18
Z	-1.334
Asymp. Sig. (2-tailed)	.032

a. Grouping Variable: Gender of the Respondents

Interpretation:

From the output, P value = 0.032 which is less than 0.05 (5% level of significance), so there is evidence to accept alternate hypothesis and reject Null Hypothesis at 5% level of significance. To conclude, significant difference exists between Men and Women Potential Car Buyers and Factors influencing them to Purchase Electric Cars in Chennai City.

2. Kruskal-Wallis Test:

H_0: Their exist no significant difference between Gender of the Potential Car Buyers and their Preference to Purchase Electric Car in Chennai City.
H_1: Their exist significant difference between Gender of the Potential Car Buyers and their Preference to Purchase Electric Car in Chennai City.

Ranks			
	Preference to Purchase Electric Car	N	Mean Rank
Gender of the Potential Car Buyers in Chennai City	Willing to buy E-Car	26	32.12
	Not Willing to buy E-Car	46	29.22
	Not Yet Decided	19	35.82
	Total	91	

Test Statistics[a, b]

	Potential Car Buyers in Chennai City
Chi-Square	1.902
df	2
Asymp. Sig.	.062

a. Kruskal Wallis Test

b. Grouping Variable: Preference to Purchase E-Car

Interpretation:

From the output, P value = 0.062 which is more than 0.05 (5% level of significance). Therefore, we accept null hypothesis and reject alternate hypothesis at 5% level of significance. Hence, it is concluded that both Men and Women Potential Car Buyers have almost the same Preference to Purchase Electric Car in Chennai City.

Findings of the Study:

- Electric Car awareness is less (55%) even in Metropolitan City like Chennai.
- Price is the Major Factor influencing Chennai Consumers not to prefer Electric Car. As they are very Price Conscious and Price Sensitive People.
- Electric Cars are not the First Choice among Potential Car Buyers in Chennai City; only 29% prefer to buy Electric Car in Chennai.
- Fear of upgraded Technology used in E-Car is another major concern for not it. Especially among consumers who are not Tech-Friendly and Middle-aged consumers.
- Electric Car is perceived as Luxury and Premium Product targeted towards Rich and Upper-Class consumers in Chennai. Hence Perceived as Costly Product; Priced high makes it non-suitable for Middle Class Population.
- Minimum availability within city limits and Non-Availability of Charging Infrastructure in outskirts/Highways of Chennai is another major concern among Potential Car Buyers.

Common Challenges in E-Car Purchase options:

- Shorter Life span (less than 5 Years) for E-Cars as against 20 Years for Fuel Cars.
- No Resale value as like Fuel Cars

- Long Hours of Charging E-Cars in Public Charging Stations
- Increased Journey Time (Travel Time + Charging Time)
- Not Suitable for Long Rides and Outstations.
- Repair Shops/Mechanics not easily available as like Fuel Cars.
- Increasing complaints about Service Centres and non-availability of spares in social media.

Suggestions:

- Awareness on Existence of Electric Car to be created primarily by Government, E-Vehicle Manufacturers, NGO's, Environmentalist, and Social conscious People.
- Government should create E-Car Benefits as YouTube Shorts and circulated in Social Platforms to reach Younger Generation and to have global coverage.
- Consumers should be educated on E-Vehicles particularly E-Car benefits through Small Screen and Silver Screen Celebrities to have wider reach.
- Electric Car Manufacturers should go for Sports / Film Celebrity endorsing of their Brands for creating advertisement to reach mass population.
- Awareness videos on benefits of using Electric Car should be created and circulated as WhatsApp messages through Chennai City Corporations and promotion Vehicles.
- Special Offers and Purchase Discounts to be given for E-Car Pre-Bookings during Festivals (Pongal, Diwali, Christmas, Ramzan) and Eve (New Year Bookings) and Special Days (Valentine's Day, Women's Day, Mother's Day, Father's Day etc.)
- Gen Z Consumers should be educated by having Chapter on **"Electric Mobility through E-Vehicles** – its need and Necessity, types and Benefits to Environment and Mankind to be included in School and College Syllabus under Environmental Science Subject (EVS) to make growing generations aware of E-Vehicles.
- Electric Car Advertisement Should Insist on its Benefit to Environment and should be repeatedly screened and printed in Television and Regional Newspaper.

Conclusion:

Electric Car awareness is less (55%) even in Metropolitan City like Chennai. Majority of young population (31-45 Years) though aware of Electric Cars and have favourable outlook and opinion towards it, but when it comes to real purchase or making purchase decision, they are hesitating and have second thought. High Price of Electric Cars in the Market is the major factor which stops people to think before making purchase decision. Indians are very price Conscious people; they prefer more to Savings and Investment and less towards Spending particularly on Highly depreciable Product like Electric Car which have short life with no resale value. Indians by nature are characterised as economical Purchaser and Budget Spending patterns. To Conclude, Electric Cars are not the First Choice of Consumers (29% alone prefer) in Chennai they are enviro-conscious, Government Schemes for Incentives & Subsidies, they hesitate to try to make purchase decision, and are influenced majorly by Price factors. Unless government makes stringent policies to bans the production, consumption and use of Fuel Cars, the demand and purchase of Electric Cars will be very slow and minimal.

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