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EV Adoption & Buying Behavior in Passenger-4w Vehicles-Indian Market

E-MDP-Sales & Marketing Management
Batch-06, Group-02

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ABSTRACT

The research is focused on Electric 4w Adoption and Buying behaviours of Indian consumers.This research has been conducted to understand the consumer needs and prefrences w.r.t to their electric 4w purchasing decision. A brief but very compehensive framework has been devised to identify the consumers needs & Desires. This research focused on Urban,Suburban and Rural consumers of India.

World wide consumers are willing to adopt sustainable mode of Mobility and Electric 4w are on the top of personal mobility space.

This reaearch has identified the key reasons and motivators which influence the electric 4w buying decision.This comperhensive study has made a crucial attampt to synthesise strong Product & Marketing Strategry to accelerate the EV Adoption.

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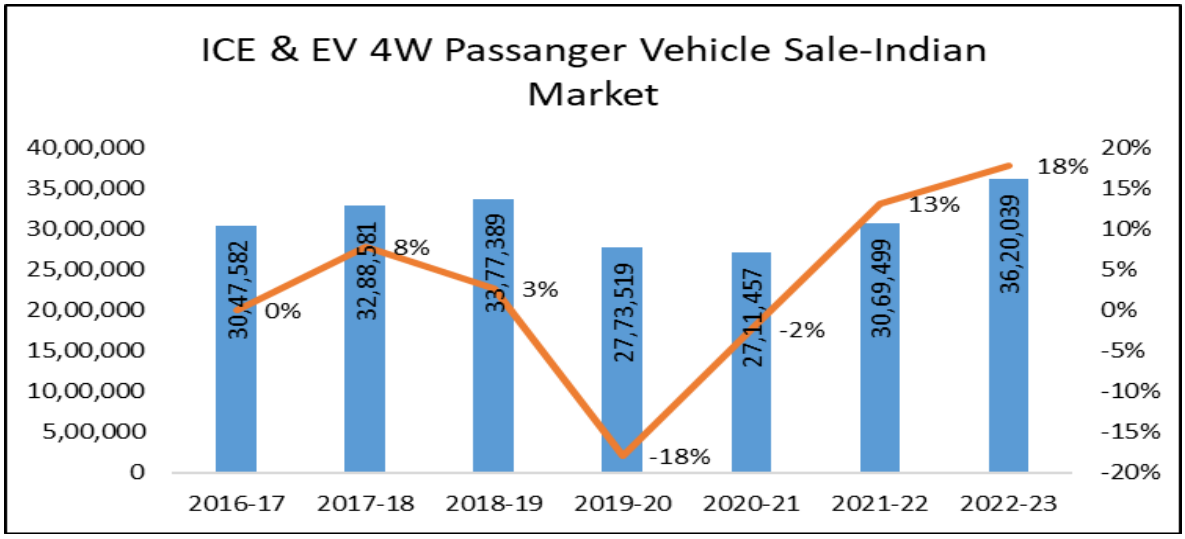
CHAPTER ONE
INTRODUCTION

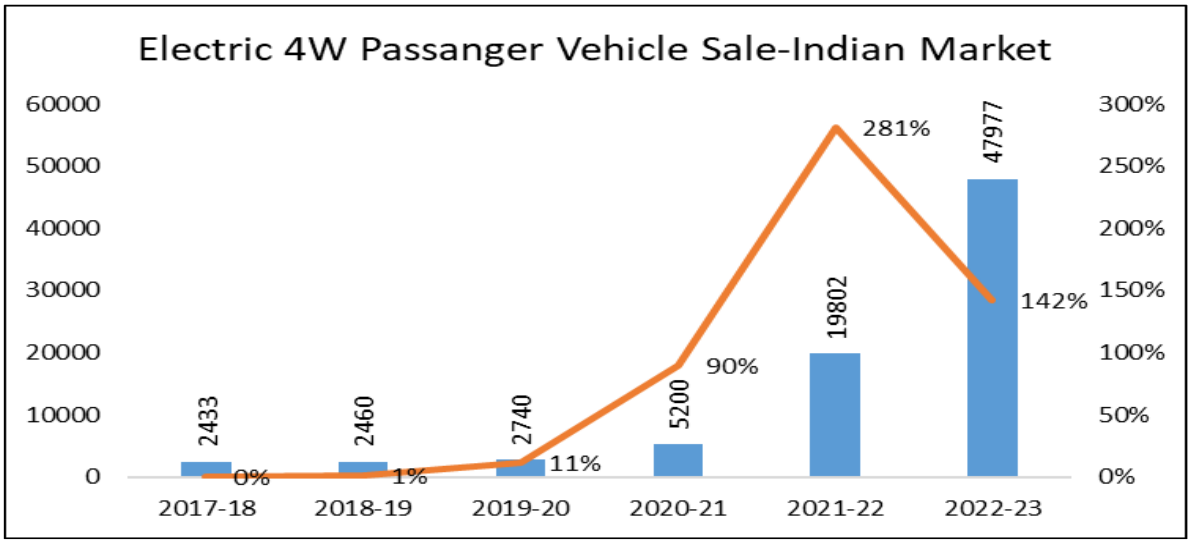
Thomas Davenport and Robert Anderson invented the first electric car in **1842**, the cars were not practical at that time because they used no-rechargeable batteries. While in 1908 Henry Ford produced the first petrol car which can be mass produced which changed the fate of ICE (internal combustion engine) or modern automobile Industry. *(Reference https://www.financialexpress.com/may2,2018)*

➢ *Background-The Indian-EV Market*

- *Past Years Indian Market Scenario*



Graph-1 -ICE & ev 4W Passanger Vehicle Sale
https://www.siam.in/statistics & FADA Releases March'23 & FY'23 Vehicle Retail Data
Source:https://www.smev.in/statistics



Graph-2 Electric 4w Passanger vehicle Sale
https://www.siam.in/statistics & FADA Releases March'23 & FY'23 Vehicle Retail Data
Source:https://www.smev.in/statistics

- *India's EV market grew 142% in Fy22-23 adding around 48,000Approx.*
- *Tata motors currently occupies 86% of the Indian EV market with just two models Nexon EV & Tigor EV.Plans to launch Harrier EV & Sierra EV by 2025*
- *Luxury cars like Audi,BMW,Mercedes occupies less than 1% of the Indian market by selling the same models which are globally popular*
- *FAME India phase II is a gverment scheme to accelerate the use & adoption of EV*

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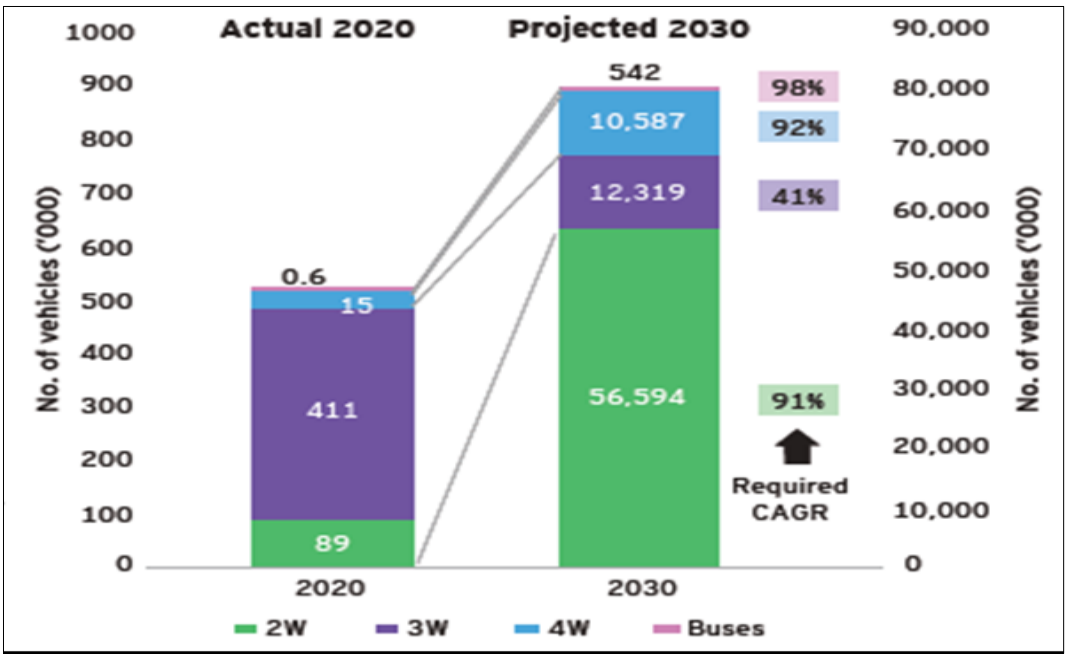
- *EV market is expected to grow over 10,58,7000 units in 2030, with CAGR of 92% (annual growth rate)*
- *The Indian EV market size is valued at **USD 220.1 million in 2020** and is expected to expand at a compound annual growth rate **(CAGR) of 94.4% from 2021 to 2030***
- *Car market penetration is 25 units per 1000 people, compared to the developed markets where it is 600-700 so the market is not saturated.Only about 8 per cent of Indian households — or 1 in 12 households — own cars. (https://auto.economictimes.indiatimes.com/)*



Graph-3

Source: Unlocking the Electric Mobility Value Pools along the e-Mobility Value Chain- EY & SMEV Knowledge Paper

➢ *Abstract*

Topic- EV Adoption & Buying Behavior in Passenger Vehicle in Indian Market

We decided to study the adoption & buying behaviour limited to the passenger vehicles further narrowed down to only passenger 4w vehicles (cars) & the study will be limited to only **Indian market. This will give a deep insight at what the ideal EV product will be, which can lead to better acceptance of EV among potential consumers.**

- *Types of Electric Vehicles-*

✓ *EV*
✓ *Battery electric Vehicles (BEVs)-*
✓ *Hybrid Electric Vehicles (HEV)*
✓ *Plug- in hybrid vehicles (PHEV)*
✓ *Mild hybrid electric vehicles (MHEV)*
✓ *Range Extender EVs (REx)*

- *The main Factors while Making car Buying Decision are as follows-*

✓ *Price point*
✓ *Safety features*
✓ *Design features (Colour, design, leg space etc.)*
✓ *Utility features (Parking camera, boot space, passenger capacity)*
✓ *Add -on features (Cruise control, heated seats etc.)*
✓ *Model Types – (Sedan hatch back, SUV)*
✓ *Maintenance cost (Annual + Insurance cost)*
✓ *Fuel types*
✓ *Resell value*
✓ *Social status the brand or car bring on the table*

- *Objective*
  "To study the consumer behaviour"

- *What factors are important when making the buying decision*
- *Is there a fundamental difference while making a buying decision for EV as compared to ICE*
- *The main factors or features that an average consumer wants in EV*
- *The acceptance level of the EV in the current potential consumer pool*

- *Research Outline*
  We have decided to study the consumer behaviour by following steps-

- *Deciding the key factors while making the purchase decision it can be different from purchasing an ICE vehicle*
- *Determine our sample size by using the statistics formula taking confidence level at 95% with margin of error as ± 5%*
- *We have arrived at the sample size & made our questionnaire*

- *Type of Data-*

✓ *Demographic- Purchasing power etc.*
✓ *Behavioural-product awareness, frequency of purchase etc.*
✓ *Geographic- city, region, rural/urban etc*
✓ *Psychographic-lifestyle, perception*

- *The questionnaire is structured in following way-*

✓ *KYC- age, gender, city etc.*
✓ *Car preference & buying capacity*
✓ *Factors while making the purchase decision*
✓ *Preferred EV features*

- *Mode of survey is google-forms link as its convenient & easy to capture the Pan India Data*
- *On the basis of responses, we have done the analysis & reached a conclusion*

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CHAPTER TWO
THEORETICAL STUDY

➢ *Literature Review*
Consumer Behaviour Theories

- *The Fundamental theories for Consumer Behaviour are-*

✓ **The Theory of Reasoned Action** *was initiated by Ajzen and Fishbein*
✓ **Engel Kollat Blackwell (EKB) Model** *involves four stages-input, processing information, decision stages and variables in the decision-making process.*
✓ **Motivation-need** *theory based on Maslow's hierarchy of needs*
✓ **Hawkins Stern –** *impulse buying*
✓ **Howard Sheth model of buying behaviour**-*social, psychological & marketing factors on the buying behaviour*

➢ *Government Policies for EV*
To encourage EV adoption in India Government has given various policies & incentives-

2021 Indian govt in collaboration with UK launched E-Amrit (a web portal) which is one stop destination for all information on EV at COP26 summit in Glasgow. The main motive is to educate consumers on the EV resulting in high awareness.

- *FAME-II*

✓ *Launched on April 1, 2015 with budget of Rs, 10,000 crores to support 5,00,000 e-three-wheelers, 7,000 e-buses, 55,000 e-passenger vehicles, and a million e-two-wheelers.*
✓ *During budget FY 2022-23 extended till 2024.*

- *PLI scheme*
Launches in June 2021, Value of 18,100 crores by Dept of Heavy Industry is to encourage domestic & international investors to invest in production of EV batteries, the scheme is called PLI-ACC scheme. For subsidy eligibility the facility should be operational within two years for manufacturing.

- *Battery Swapping Policy*
Standardising the battery in same type of vehicles so that the same can be swapped across in case of time sensitive sectors use & inter-city travel.

This will also lead to better penetration & acceptance of EV, lowering the cost of manufacturing due to standardisation & availability of cheaper spare parts availability.

- *Duty Reduction on Electric Vehicles*
In order to lower production cost of batteries, lower the import duties on the Nickel Ore, Nickle oxide & Ferro Nickel as NMC (Nickle Manganese Cobalt) is vital component of EV batteries.

- *Special E- mobility Zone*
Such policies are popular in European countries where EV mobility zones are created so to travel in such zones one has to travel by private vehicles or public vehicles in both the cases. This will promote the EV adoption.

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CHAPTER THREE
METHODOLOGY

There are several methods to pursue consumer behaviour study one of them is survey & Interviews, this gives a very clear insight of the consumer perception towards the intended topic.

➢ *Methods for CONSUMER BEHAVIOUR METHODOLOGY*

- *Focus group*
- *In-depth interview*
- *Survey*
- *Online review sites*

We shortlisted on in-depth interview as well as Survey with questions aimed getting a deeper insight of the consumer psyche.

➢ *Research Methodology*

There are types of Data collected while conduction such surveys the same is explained below-

- *Primary – Survey, Interviews*
- *Secondary- Online Articles, Books, Govt. Portal etc.*

➢ *Sample Data Calculation & Data Collection*

- *Sample Size is Important as it will Determine how Accurate the Results are.*

For any statistical study a sample size needs to be determined. For this we can use Cochran Formula

Table 1 Confidence Level and Z Score

Desired Confidence Level	Z-score
80%	1.28
85%	1.44
90%	1.65
95%	1.96
99%	2.58

$$\text{Unlimited population: } n = \frac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2}$$

$$\text{Finite population: } n' = \frac{n}{1+\frac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2 N}}$$

Where

N is the sample size
Z is the z score
P is the population proportion (usually determined by previous studies else 50% or 0.5 is taken)
ε is the margin of error

- *Sample size calculation steps*

✓ Define the size of population (if known)
✓ Calculate margin of error or confidence interval (± 5)
✓ Confidence level (95%)
✓ Variance level
✓ P is standard deviation

With 95% confidence level, a standard deviation of 0.5, and a confidence interval (margin of error) of ± 5%, you just need to substitute the values in the formula:

((1.96)2 x .5(.5)) / (.05)2
(3.8416 x .25) / .0025
.9604 / .0025
384.16= **385**

Your sample size should be 385.

- *Calculate sample size = 385 (as per below)*

✓ N = population size
✓ e = Margin of error (percentage in decimal form)
✓ z = z-score

✓ The z-score is the number of standard deviations a given proportion is away from the mean.

✓ *Reference https://www.surveymonkey.com/mp/sample-size-calculator/*

- *We collected 359 responses as compared to 385*
- *With confidence level of 90%, Margin error of 5% & infinite population the sample size is 273*

➢ *Questionnaire Design & Google form link*

- *The Google form can be Reached at the following link- https://docs.google.com/forms/d/e/1FAIpQLSc9qjoVkMLofR_J_yWGmWZ8nQfVzu3dwkW0yJ7Xk2u3lB6MYQ/viewform?usp=sf_link*

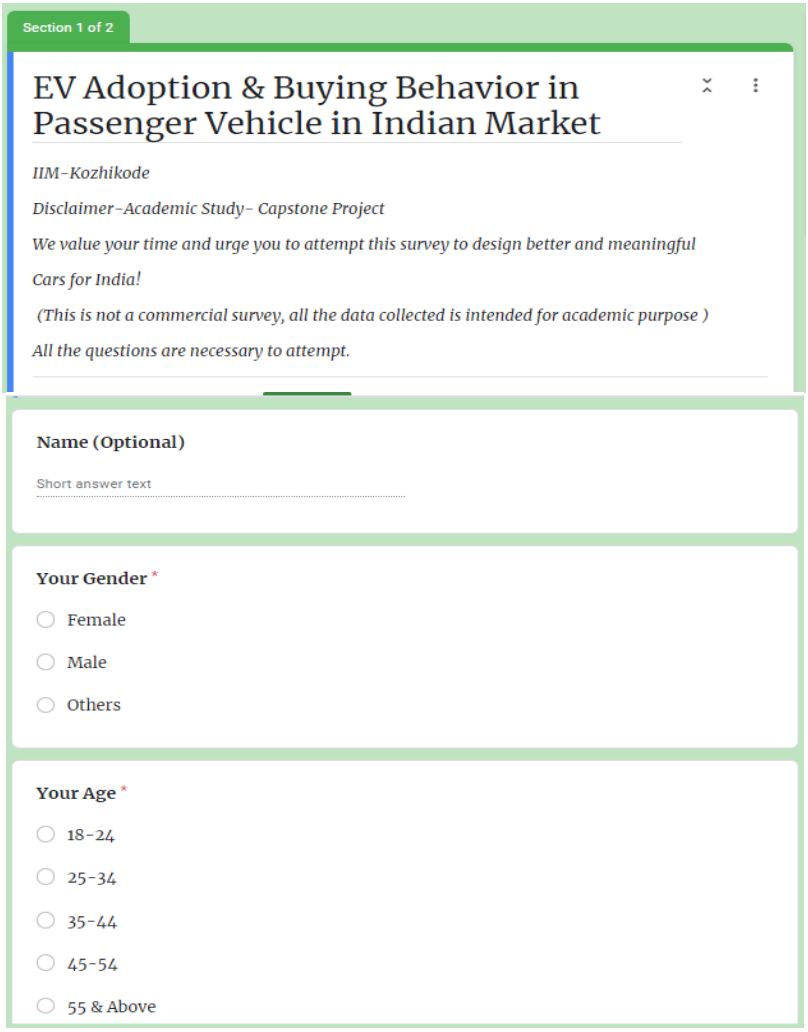


Fig 1 Questionnaire

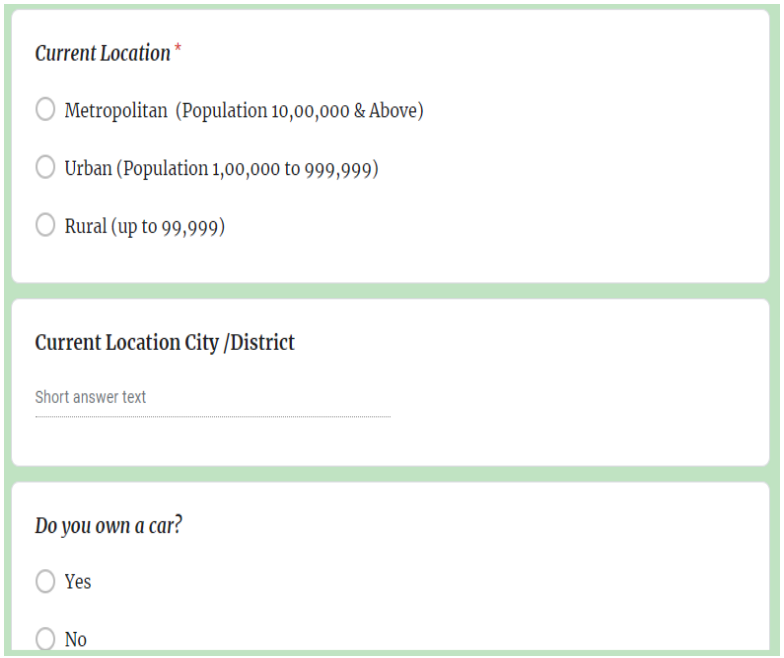


Fig 2 Questionnaire

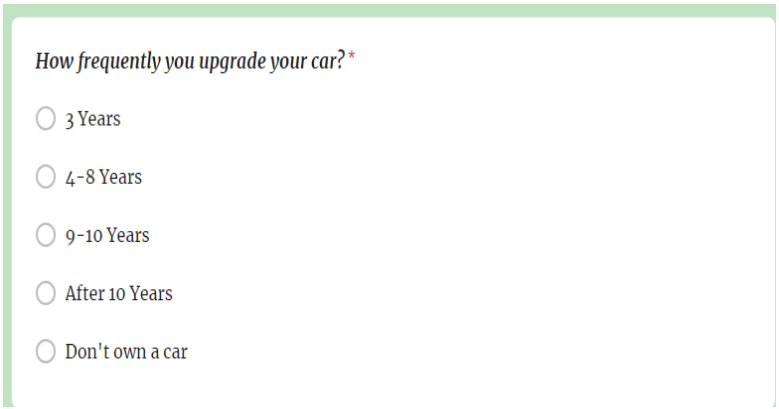
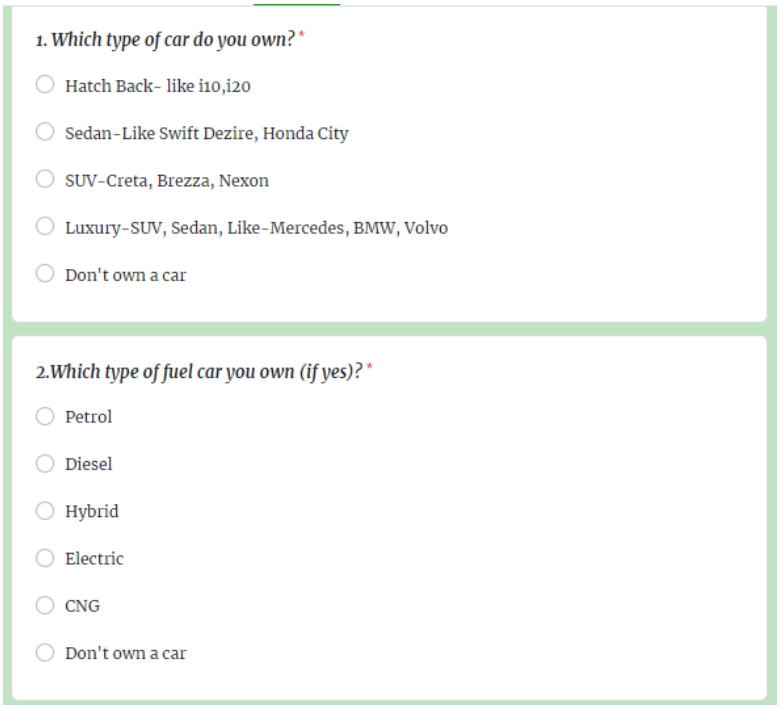


Fig 3 Questionnaire



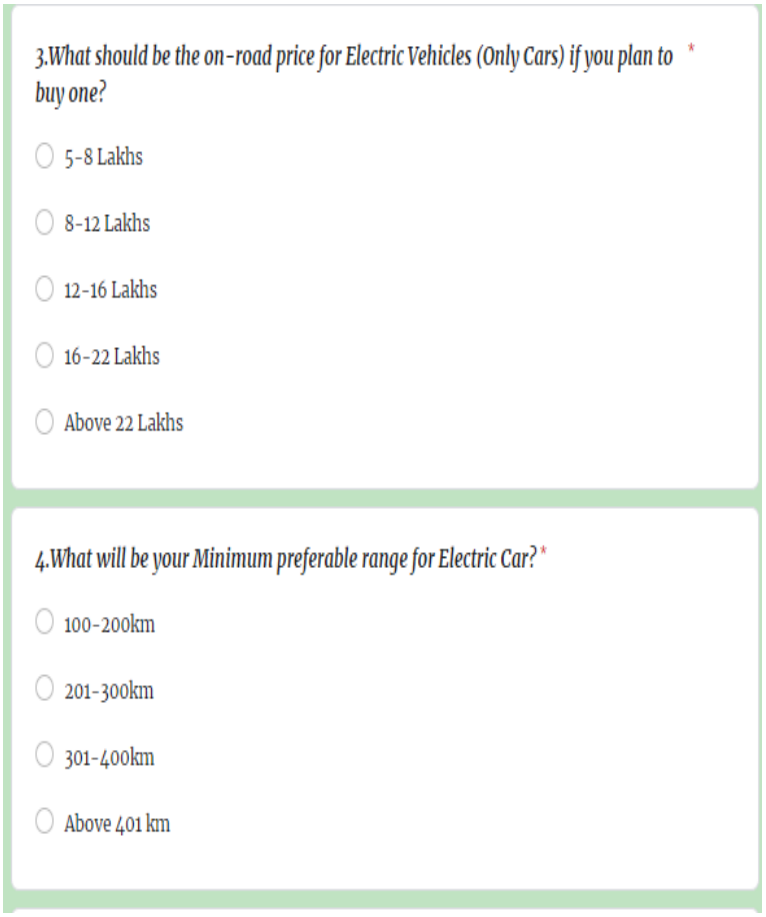
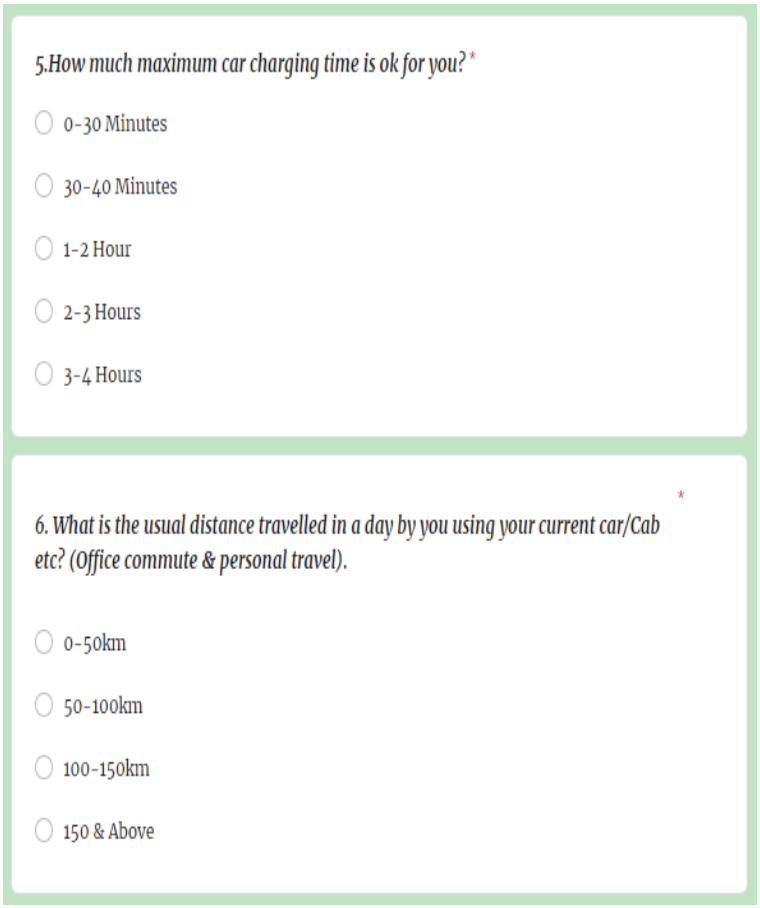


Fig 4 Questionnaire



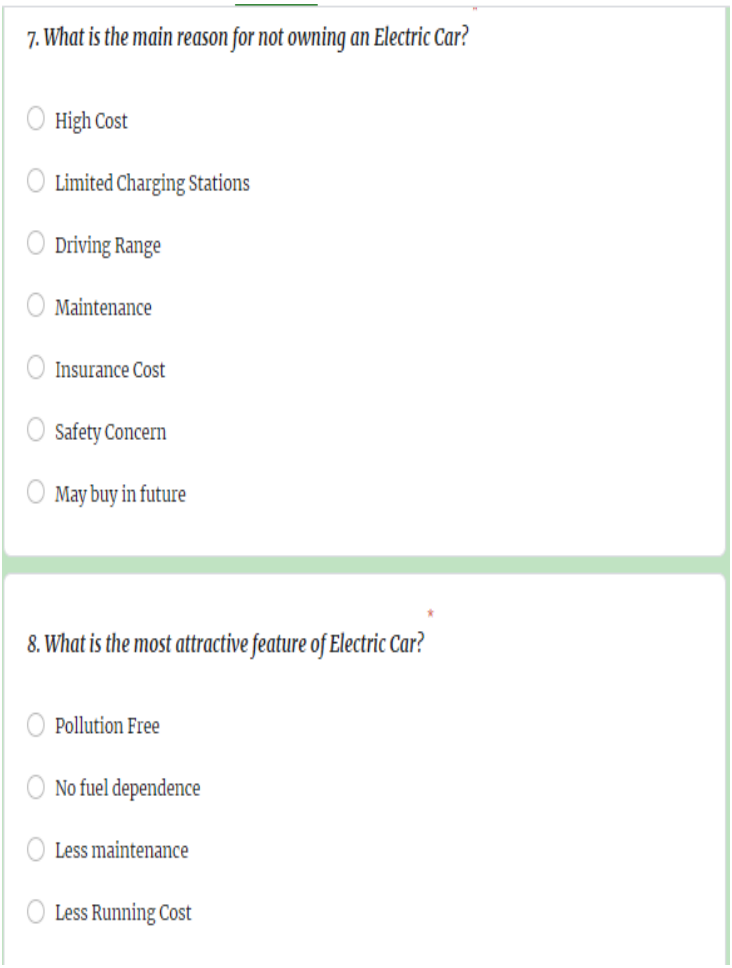


Fig 5 Questionnaire

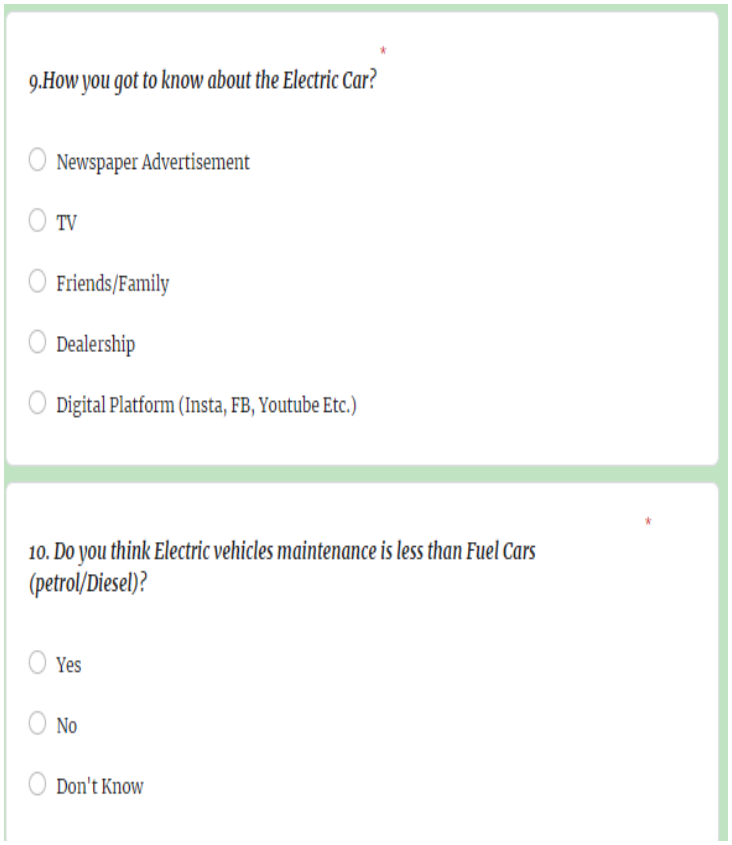


Fig 6 Questionnaire

➢ *Qualitative Interviews*

To understand the individual psyche of an average consumer we conducted few interview & below are two documented interviews –

- *Interview 1-*

Consumer Profile

✓ *39 Years Male, Employed, Industry- Consulting*
✓ *City- Mumbai*
✓ *Household annual Income- 30 Lakh- 43 lakhs (each)*
✓ *Dual income Nuclear Family with one kid & a pet dog*
✓ *Hobbies- Travelling & Gym*
✓ *Cars owned- Jeep compass (on road price 21 lakhs onwards)*

- *Key Points Noted-*

✓ *They already have a car & want to add one more for the wife to drive*
✓ *Wife wants a smaller car for ease of parking within city (Mumbai)*
✓ *Wife wants to own an EV because she is firm believer in minimising the carbon foot-print*
✓ *They are planning to own either Tata Nexon or similar offering from other brands*
✓ *They often travel abroad & like the ease of charging stations mushrooming at faster rate there*
✓ *They were not aware about the higher insurance premium charged for EV as compared to ICE*
✓ *They still will be commuting by their ICE vehicle during vacation drives to Goa, Alibaug etc. as they usually travel with a kid & don't want the risk of getting stuck because of lack of charging stations*
✓ *They have not seen lot of EV 4W in their friend circle as first car so they want to wait & watch*
✓ *Their shortlisted car Tata Nexon EV prime cost 14-17 lakhs on road in Mumbai while Tata harrier ICE between 15-24 lakh so they feel the EV are not value for money when compared to ICE*
✓ *They feel Indian market will boom in EV in next 5 years*
✓ *Not aware about the high insurance & Govt schemes for EV*

- *Interview 2-*

Consumer Profile

✓ *28 Years Female, Employed, Dentist*
✓ *City- Pune*
✓ *Household annual Income- 28 Lakh- 30 lakhs*
✓ *Unmarried avid reader loves to travel, Car owner*
✓ *Hobbies- K- dramas, reading classic poetry*
✓ *Cars owned- Hyundai Venue (Gifted by Father)*

- *Key Points Noted-*

✓ *She already has a car which her father gifted when she started her clinic*
✓ *Feels the EV is the future & firmly believes in Car being one of the primary reasons for global warming*
✓ *Whenever she will upgrade to a new car down the lane she wants to opt for EV*
✓ *Only knows about EV cars like Tata in India & Tesla in US*
✓ *She thinks cars between 10-14 lakhs in EV may lead to more adoption*
✓ *She usually commutes within city & she feels her city has few charging stations but in coming 5-6 years it will improve*
✓ *She is not aware about any Govt schemes or concession given for EV*
✓ *Feels charging time will also reduce with technology improvement*

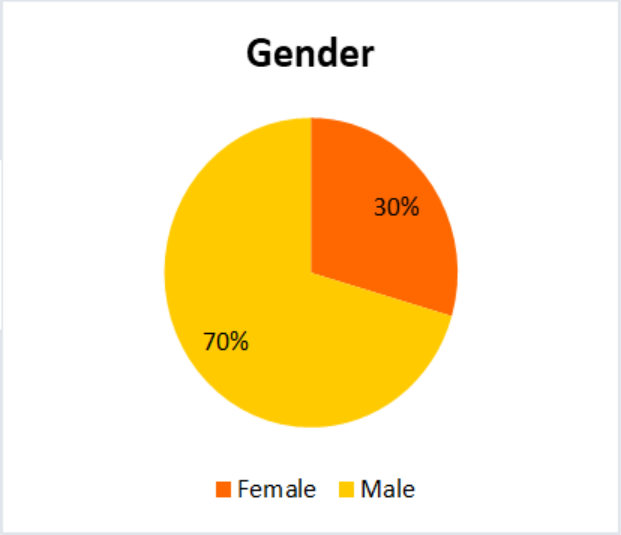
➢ *Survey, Analysis & Insights:*

- *Gender*

Table 2 Gender

Gender	
Female	106
Male	253
Total	359

As per our survey pool around 70% were men while 30% were women. Car buying is a cumulative decision for nuclear families now.

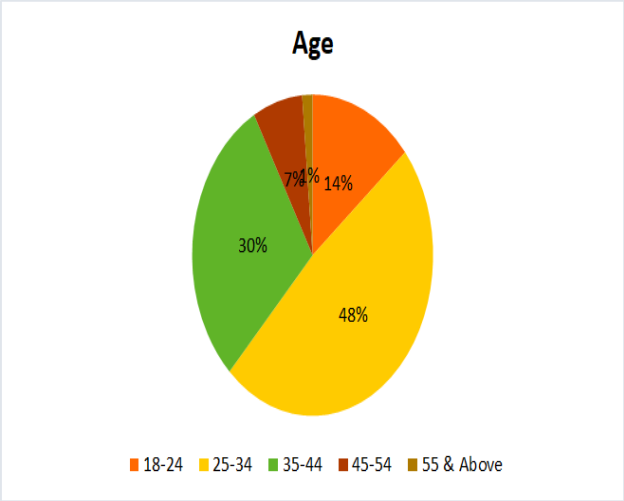


Graph 4 Gender

- *Age*

Table 3 Age

Age	
18-24	50
25-34	173
35-44	107
45-54	24
55 & above	5
Total	359



Graph 5 Age

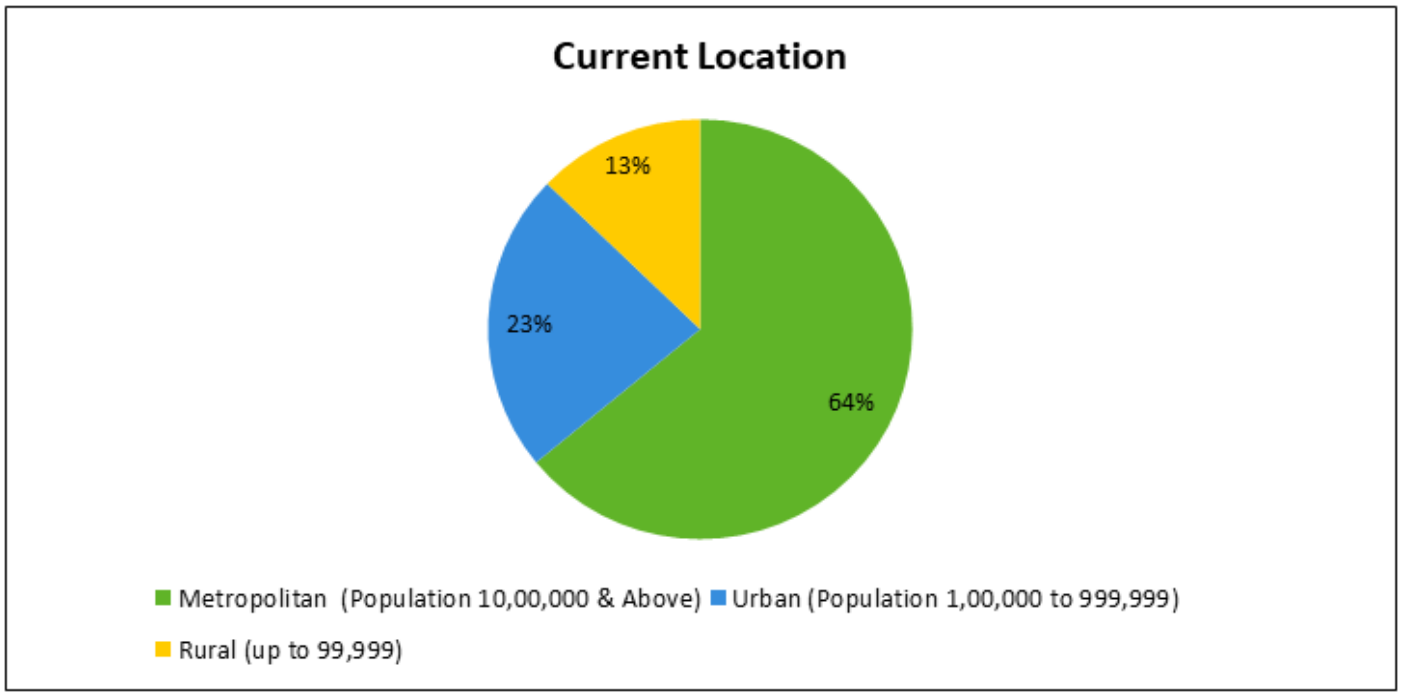
Our main data pool is aged between 25-45.

According to a survey in Indian demographics the median age for a car buyer is between 24-35 Years & about 65% of car owners are below their 30s. So, our survey pool is apt for the conducting the survey.

Reference-https://auto.economictimes.indiatimes.com/news/passenger-vehicle/cars/car-buyers-contribution-in-indias-dream-of-becoming-third-largest-pv-market/93571759

➢ *Location*

This data shows the division of where our survey individuals reside- divided among metropolitan cities, urban or rural. This is essential as the charging stations, the buying power, commute needs, awareness, mode of advertising & infrastructure differs for the adaptability of EV.



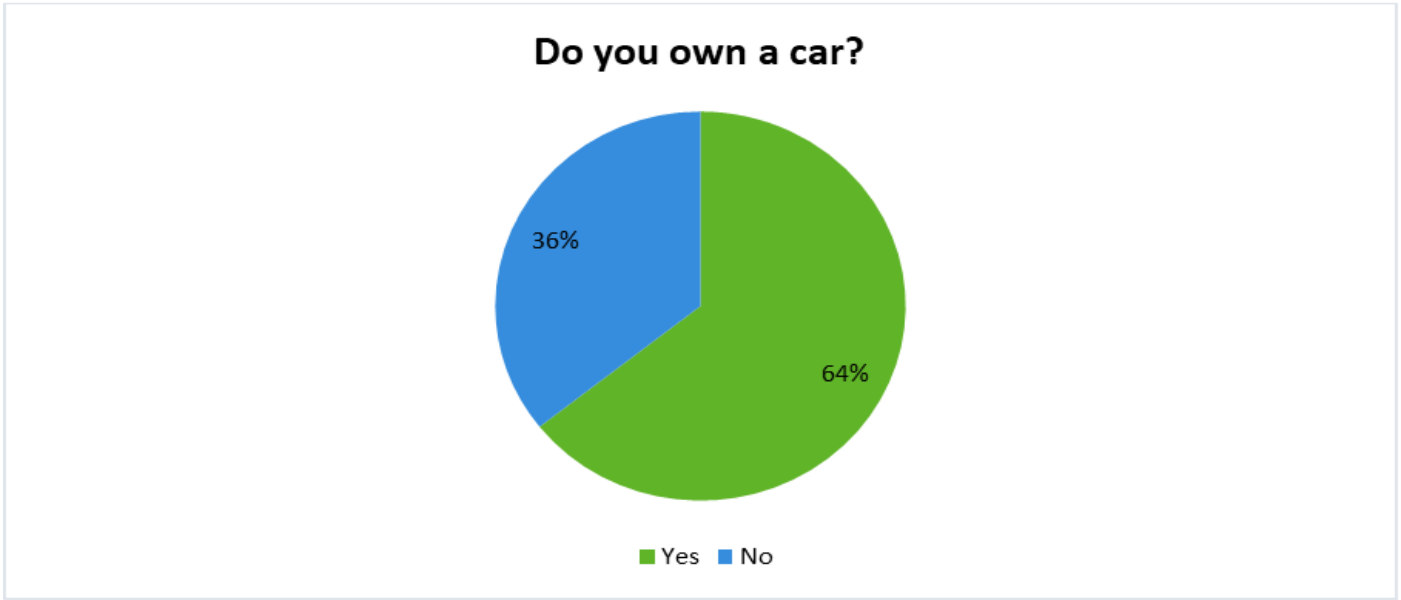
Graph 6 Current Location

➢ *Do you Own a Car?*

Table 4 Do you Own a Car?

Do you Own a Car?	
Yes	231
No	128
Total	359

This will give us the demarcation for the already car owners vs consumer who own 2W but will switch to cars in future also, this will help us in knowing what is the difference in perception for car owners vs non-car owners towards EV.



Graph 7 Do you Own a Car?

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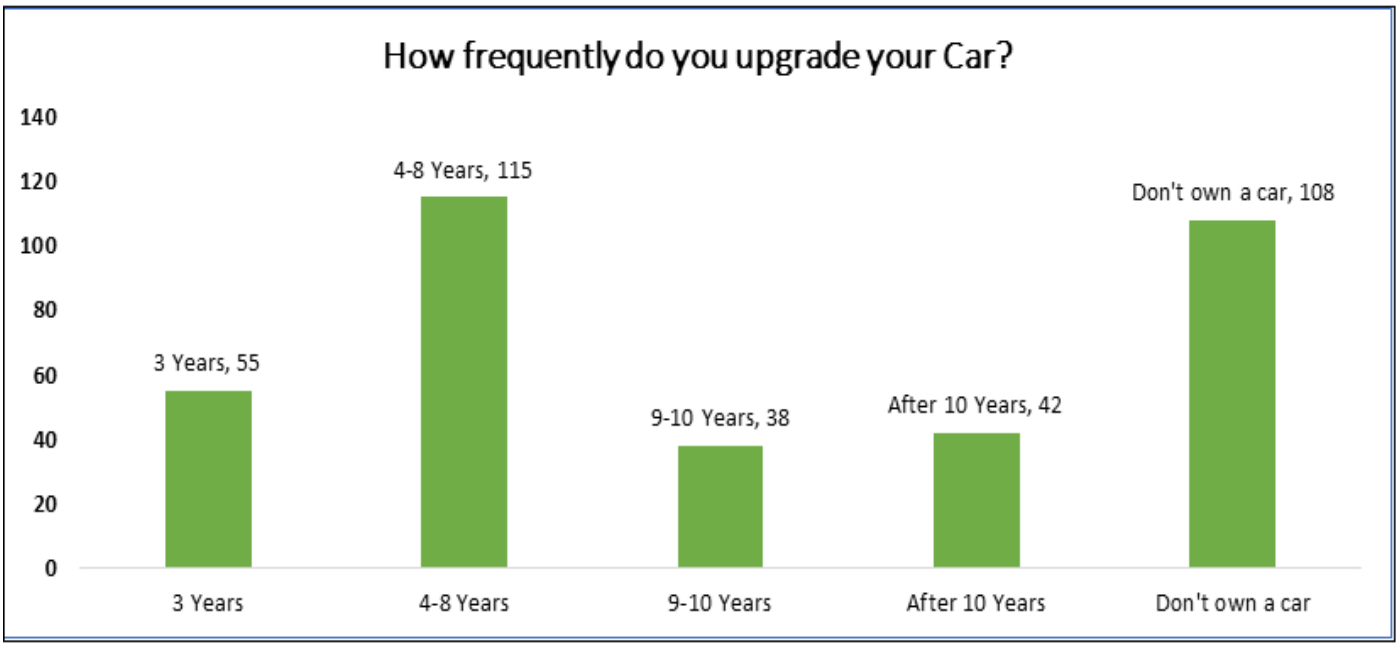
➢ *How Frequently do you Upgrade your Car?*

This data is important to know how frequently people want to change their car & frequency of buying in this high value purchase category.

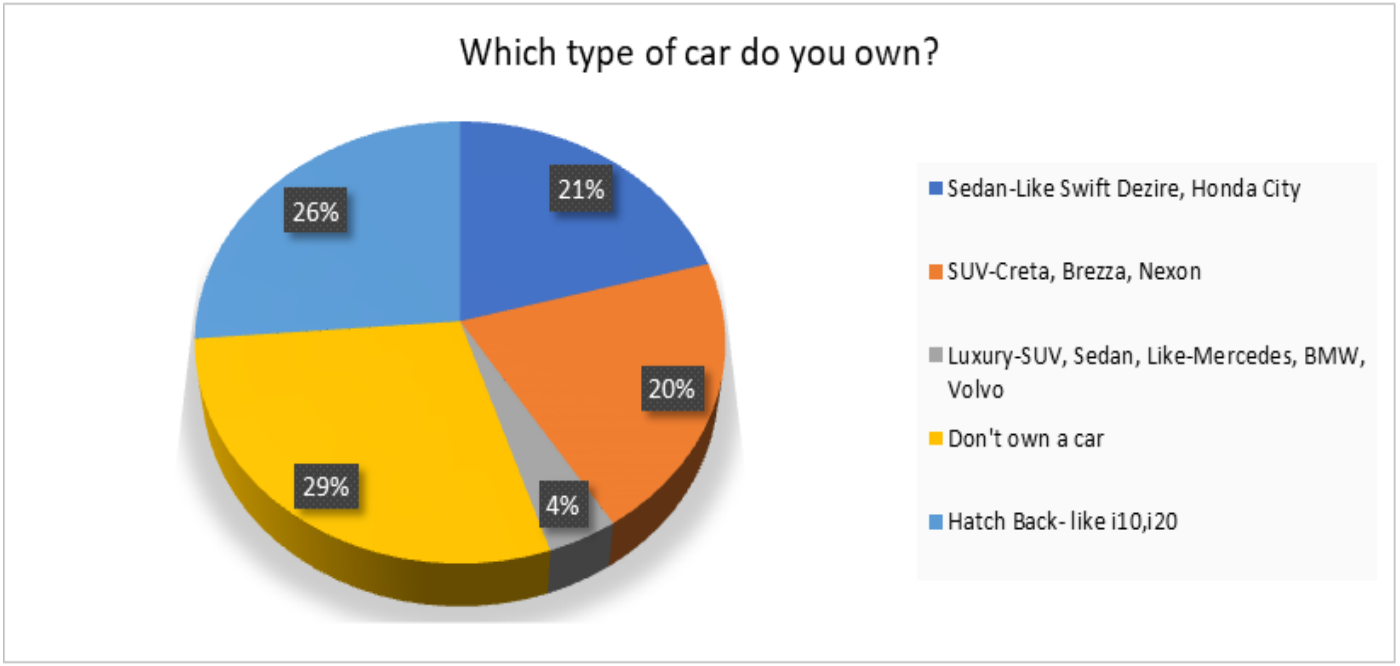


Graph 8 How Frequently you Upgrade your Car?

Table 5 How Frequently you Upgrade your Car?

How Frequently you Upgrade your Car?	
3 Years	55
4-8 Years	115
9-10 Years	38
After 10 Years	42
Don't own a car	108
Total	358

➢ *Which type of Car do you Own?*



Graph 9 Which type of Car do you Own?

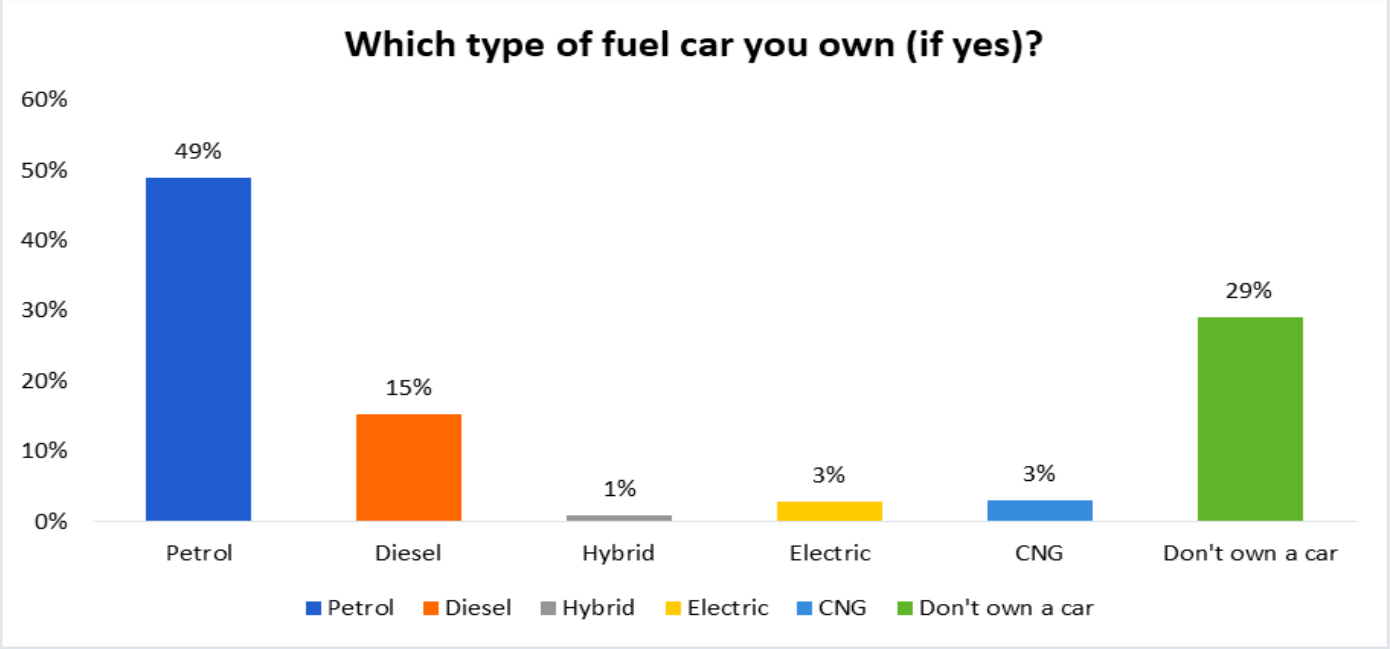
Table 6 Which type of Car do you Own?

Which type of Car do you Own?	
Sedan-Like Swift Dezire, Honda City	74
SUV-Creta, Brezza, Nexon	73
Luxury-SUV, Sedan, Like-Mercedes, BMW, Volvo	14
Don't own a car	103
Hatch Back- like I10, I20	94
Total	358

- *Which type of Fuel Car do you Own?*

Table 7 Which type of Fuel car you Own (if yes)?

Which type of Fuel Car you Own (if yes)?	
Petrol	175
Diesel	55
Hybrid	3
Electric	10
CNG	11
Don't own a car	104
Total	358

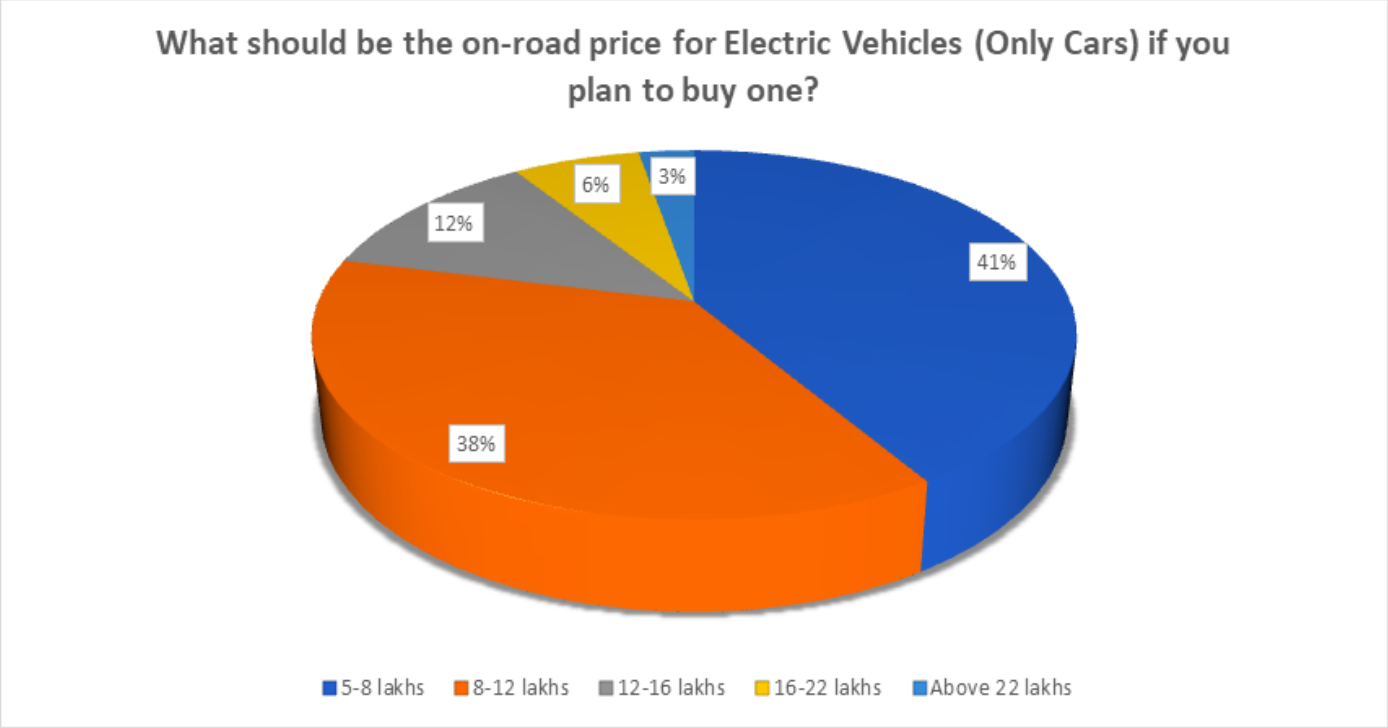


Graph 10 Which type of Fuel car you Own (if yes)?

- *What should be the on-road price for Electric Vehicles (Only Cars) if you plan to buy one?*

Table 8 What should be the on-road price for Electric Vehicles (Only Cars) if you plan to buy one?

What should be the on-road price for Electric Vehicles (Only Cars) if you plan to buy one?	
5-8 lakhs	148
8-12 lakhs	135
12-16 lakhs	43
16-22 lakhs	23
Above 22 lakhs	10
Total	359

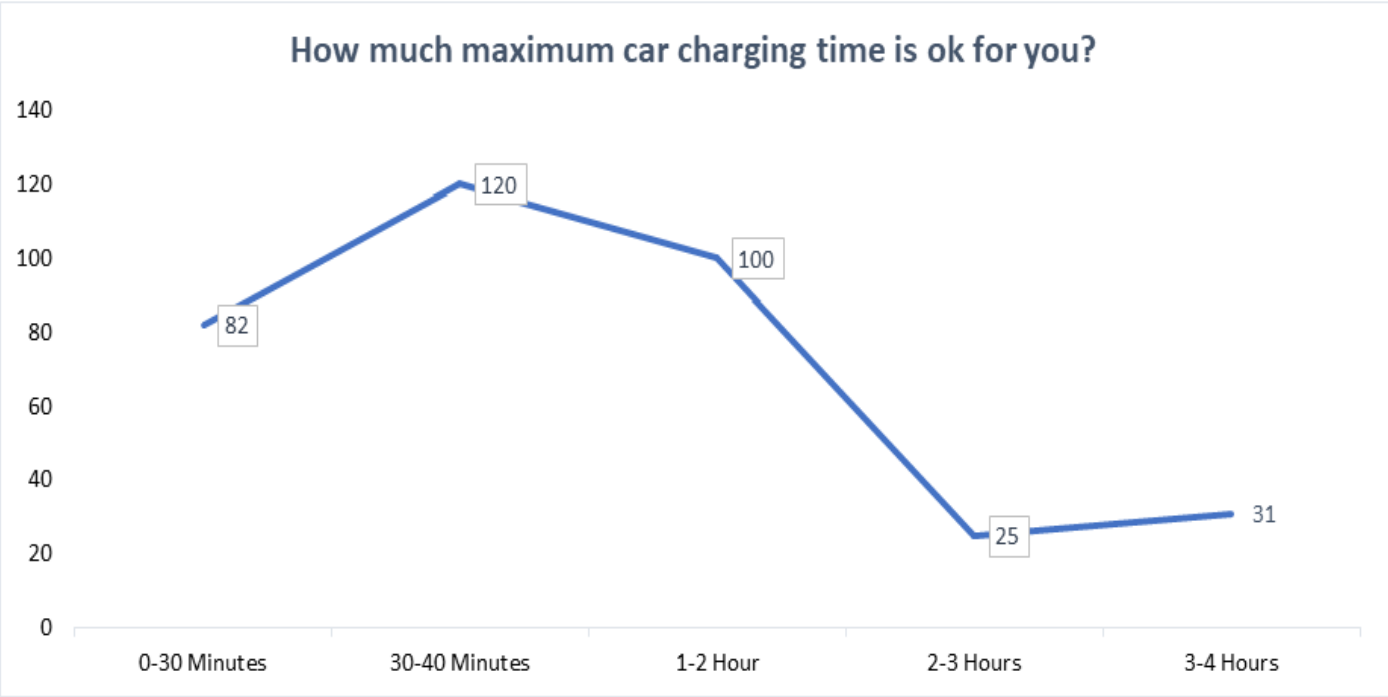


Graph 11 What should be the on-road price for Electric Vehicles (Only Cars) if you plan to buy one?

➢ *How much Maximum Charging Time is ok for you?*

Table 9 How much Maximum car Charging Time is ok for you?

How much maximum car charging time is ok for you?		
0-30 Minutes	82	23%
30-40 Minutes	120	34%
1-2 Hour	100	28%
2-3 Hours	25	7%
3-4 Hours	31	9%
Total	358	

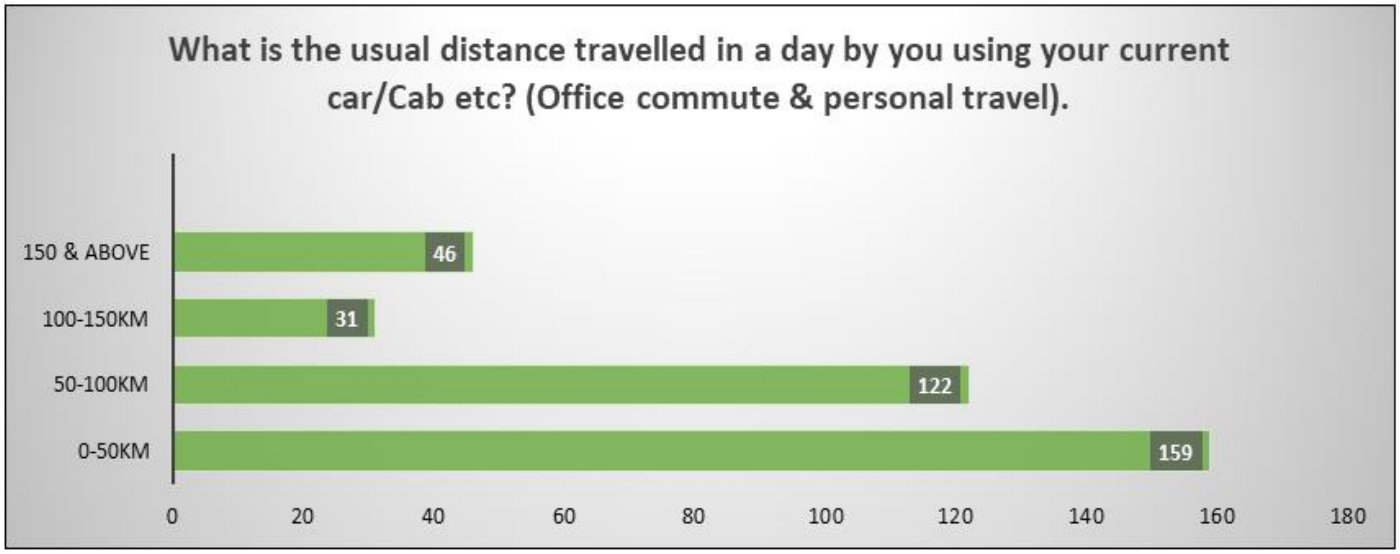


Graph 12 How much Maximum car Charging Time is ok for you?

➢ *What is the usual distance travelled in a day by you using your current car/Cab etc? (Office commute & personal travel)?*

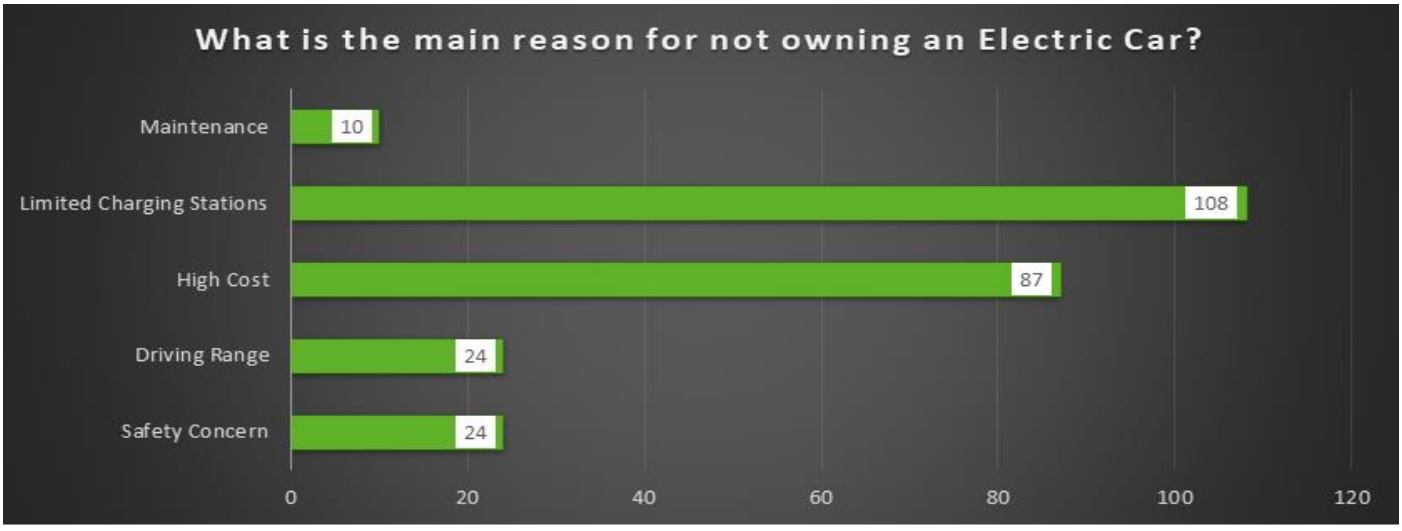
Table 10 What is the usual distance travelled in a day by you using your current car/Cab etc.? (Office commute & personal travel)

What is the usual distance travelled in a day by you using your current car/Cab etc.? (Office commute & personal travel).		
0-50km	159	44%
50-100km	122	34%
100-150km	31	9%
150 & above	46	13%
Total	358	



Graph 13 What is the usual distance travelled in a day by you using your current car/Cab etc.? (Office commute & personal travel)

➢ *What is the main Reason for not Owning an Electric Car?*

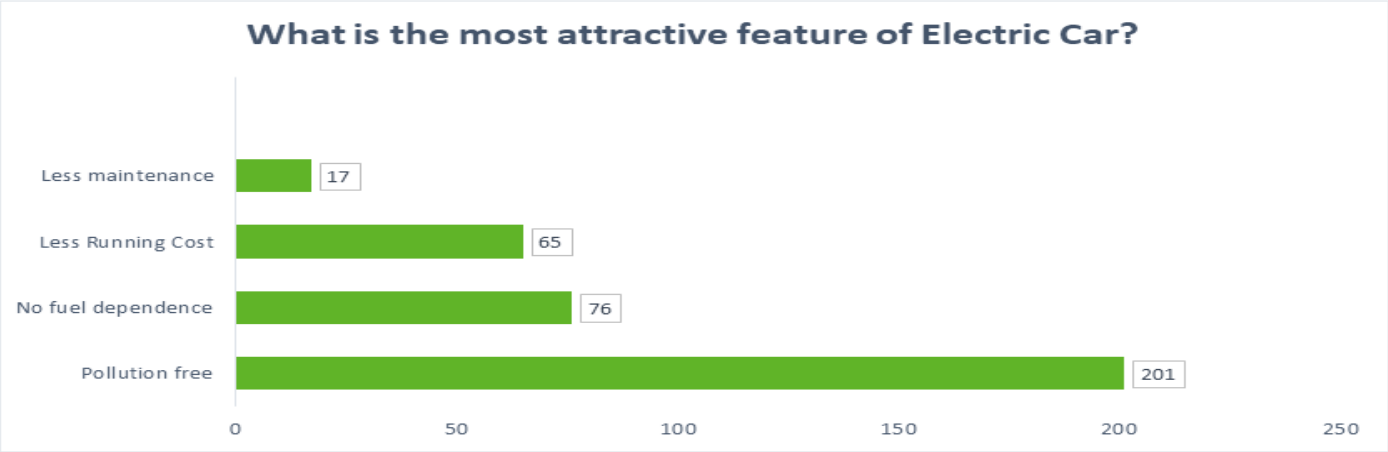


Graph 14 What is the Main Reason for Not Owning an Electric Car?

Table 11 What is the main reason for Not owning an Electric Car?

What is the main reason for Not owning an Electric Car?		
Safety Concern	24	7%
Driving Range	24	7%
High Cost	87	24%
Limited Charging Stations	108	30%
Maintenance	10	3%
May buy in future	103	29%
Total	356	

➢ *What is the most attractive feature of Electric Car?*



Graph 15 What is the most attractive feature of Electric Car?

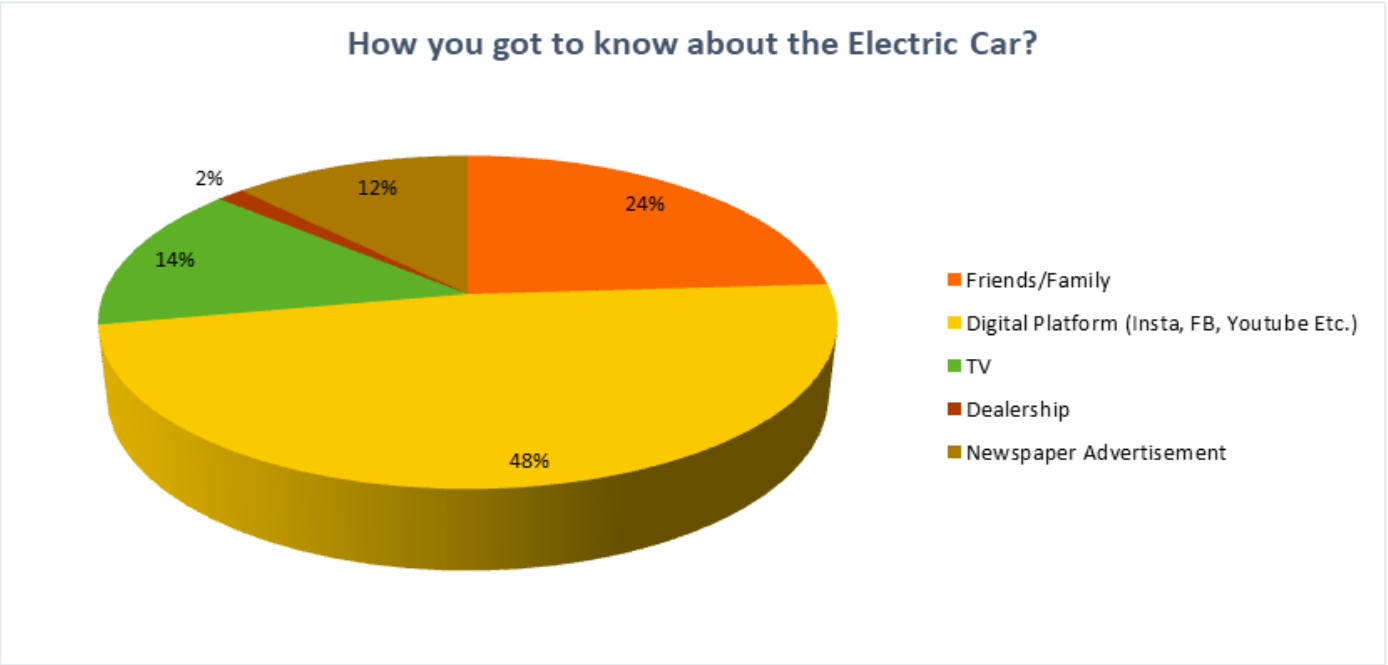
Table 12 What is the most attractive feature of Electric Car?

What is the most attractive feature of Electric Car?	
Pollution free	201
No fuel dependence	76
Less Running Cost	65
Less maintenance	17
Total	359

➢ *How you got to know about the Electric Car?*

Table 13 Do you think Electric vehicles maintenance is less than Fuel Cars (petrol/Diesel)?

How you got to know about the Electric Car?	
Friends/Family	86
Digital Platform (Insta, FB, YouTube Etc.)	172
TV	51
Dealership	5
Newspaper Advertisement	44
Total	358

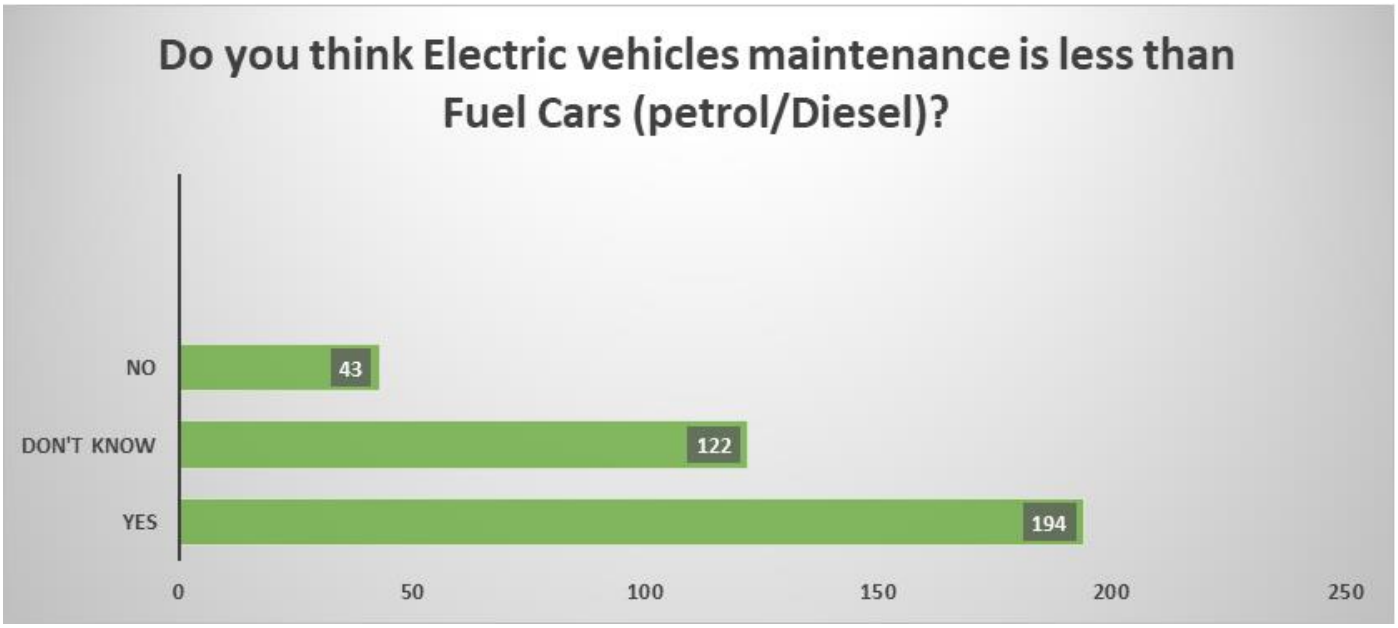


Graph 16 How you got to know about the Electric Car?

➢ *Do you think Electric vehicles maintenance is less than Fuel Cars (petrol/Diesel)?*

Table 13.1 Do you think Electric vehicles maintenance is less than Fuel Cars (petrol/Diesel)?

Do you think Electric vehicles maintenance is less than Fuel Cars (petrol/Diesel)?	
Yes	194
Don't Know	122
No	43
Total	359



Graph 17 Do you think Electric vehicles maintenance is less than Fuel Cars (petrol/Diesel)?

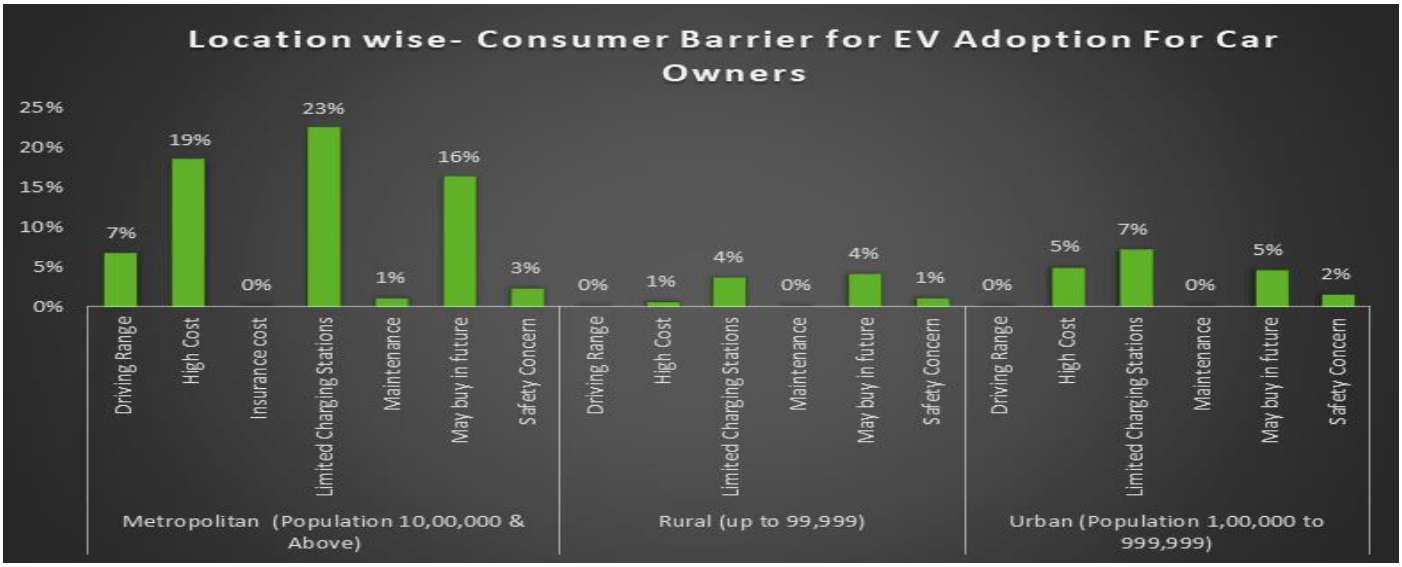
➢ *Data Analysis*

With the help of the data, we collected through survey we transferred the info in Excel & using pivot table we analysed following consumer insights-

- *Location wise- Consumer barrier for EV Adoption*

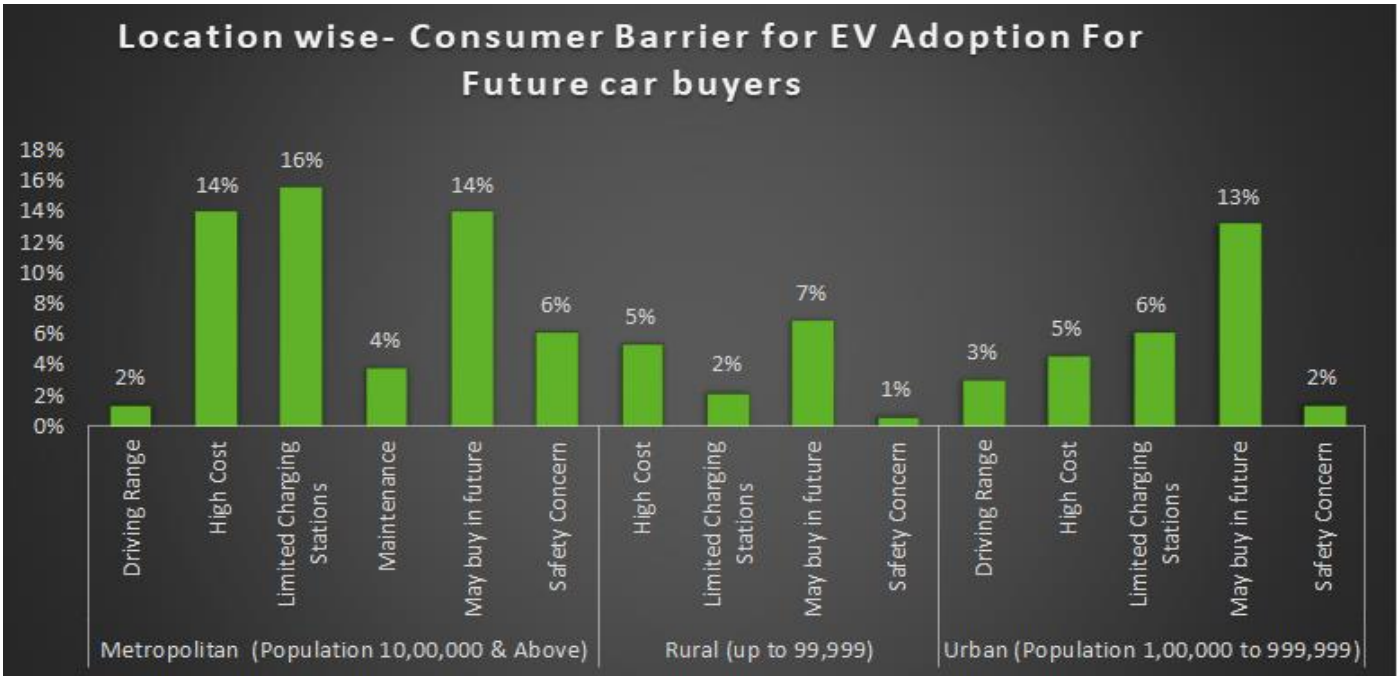
✓ *For Consumers who Already own a car-*

For all the three metropolitan, rural, urban the major deterrent for the consumer is limited charging station so the infrastructure is still one of the drawbacks for limited EV adoption in Indian market. (23% metropolitan, Rural 4%, Urban 7% for limited charging station) for existing car owners.



Graph 18 Location wise- Consumer barrier for EV Adoption for Car Owners

- *For Consumers who don't own a Car-*



Graph 19 Location wise- Consumer barrier for EV Adoption for Future Car Buyers

While in case of Future car buyers only in Metropolitan limited charging station is main deterrent factor (16%) while Rural & urban population list may buy in future (7 % & 13% respectively)

- *Data used-*

Table 14 Car Ownership

Do you own a car?	**Yes**
Row Labels	**Count of Do you own a car?**
Metropolitan (Population 10,00,000 & above)	**69%**
Driving Range	7%
High Cost	19%
Insurance cost	0%
Limited Charging Stations	23%
Maintenance	1%
May buy in future	16%
Safety Concern	3%
Rural (up to 99,999)	**11%**
Driving Range	0%
High Cost	1%
Limited Charging Stations	4%
Maintenance	0%
May buy in future	4%
Safety Concern	1%
Urban (Population 1,00,000 to 999,999)	**20%**
Driving Range	0%
High Cost	5%
Limited Charging Stations	7%
Maintenance	0%
May buy in future	5%
Safety Concern	2%
Grand Total	**100%**

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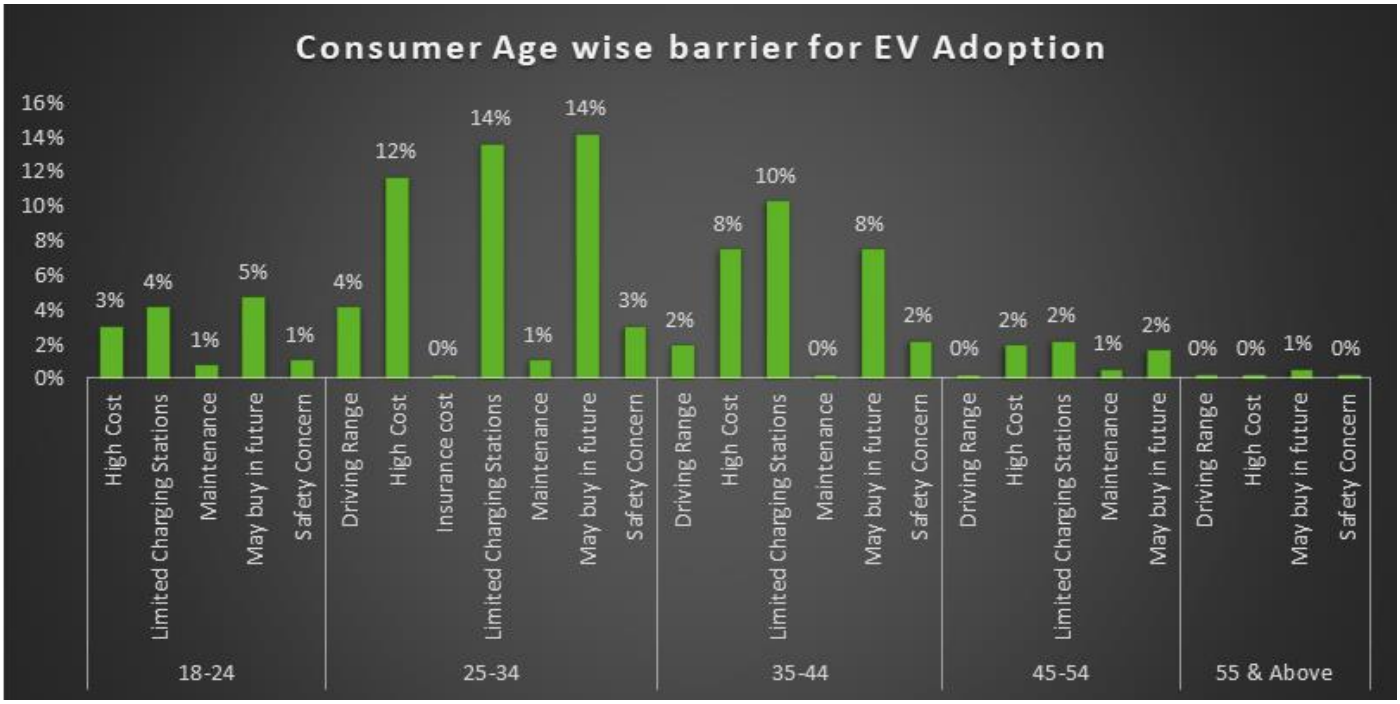
- *Consumer Age wise Barrier for EV adoption*
  Limited charging stations remains the main factor for not buying an EV is all age groups.



Graph 20 Consumer Age wise Barrier for EV adoption

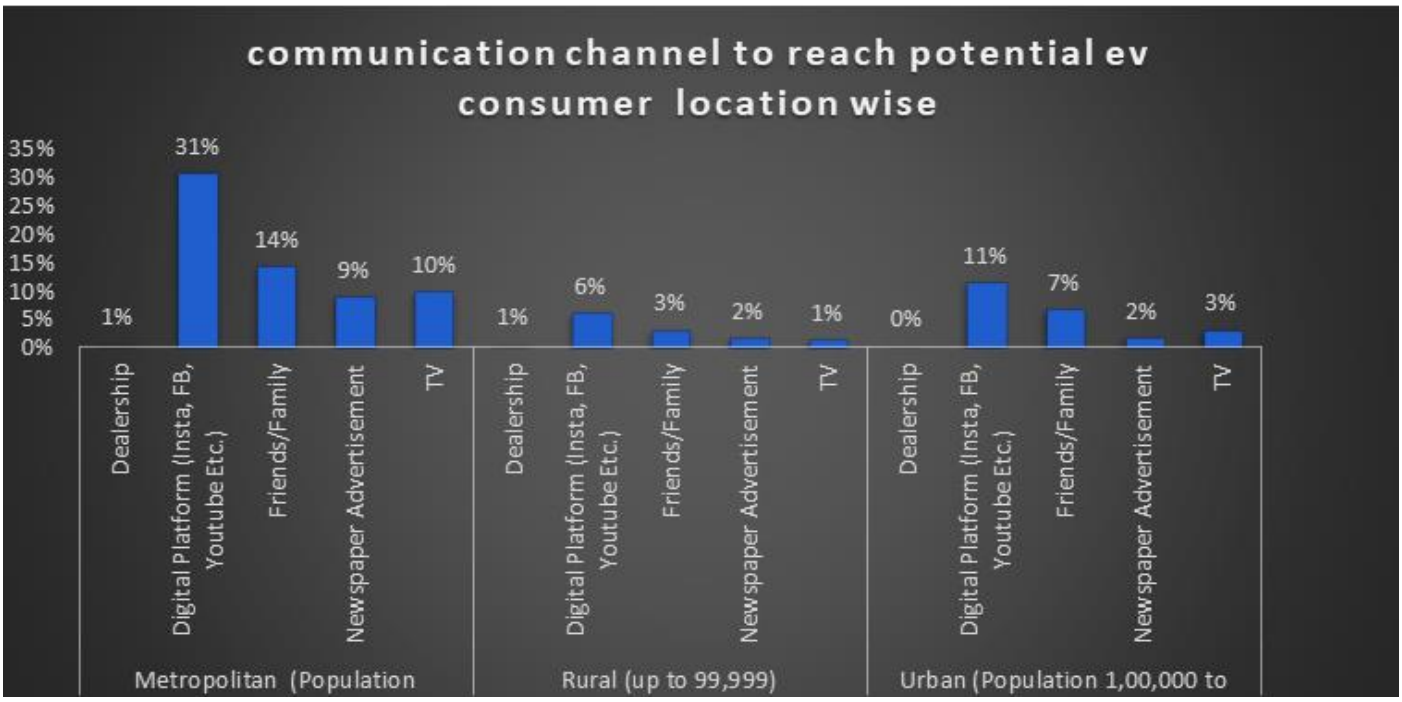
➢ *Data used*

Table 15 Age wise barrier to own a car

Current Location	**(All)**
Row Labels	**Count of Your Age**
18-24	**14%**
High Cost	3%
Limited Charging Stations	4%
Maintenance	1%
May buy in future	5%
Safety Concern	1%
25-34	**48%**
Driving Range	4%
High Cost	12%
Insurance cost	0%
Limited Charging Stations	14%
Maintenance	1%
May buy in future	14%
Safety Concern	3%
35-44	**30%**
Driving Range	2%
High Cost	8%
Limited Charging Stations	10%
Maintenance	0%
May buy in future	8%
Safety Concern	2%
45-54	**7%**
Driving Range	0%
High Cost	2%
Limited Charging Stations	2%
Maintenance	1%
May buy in future	2%

55 & Above	**1%**
Driving Range	0%
High Cost	0%
May buy in future	1%
Safety Concern	0%
Grand Total	**100%**

- *Which is the best Communication Channel to reach Potential EV Consumer based on Location*



Graph 21 Communication Channel to reach Potential EV Consumer Location wise

Table 16 Communication Channels

Row Labels	Count of Current Location
Metropolitan (Population 10,00,000 & above)	**64%**
Dealership	1%
Digital Platform (Insta, FB, YouTube Etc.)	31%
Friends/Family	14%
Newspaper Advertisement	9%
TV	10%
Rural (up to 99,999)	**13%**
Dealership	1%
Digital Platform (Insta, FB, YouTube Etc.)	6%
Friends/Family	3%
Newspaper Advertisement	2%
TV	1%
Urban (Population 1,00,000 to 999,999)	**23%**
Dealership	0%
Digital Platform (Insta, FB, YouTube Etc.)	11%
Friends/Family	7%
Newspaper Advertisement	2%
TV	3%
Grand Total	**100%**

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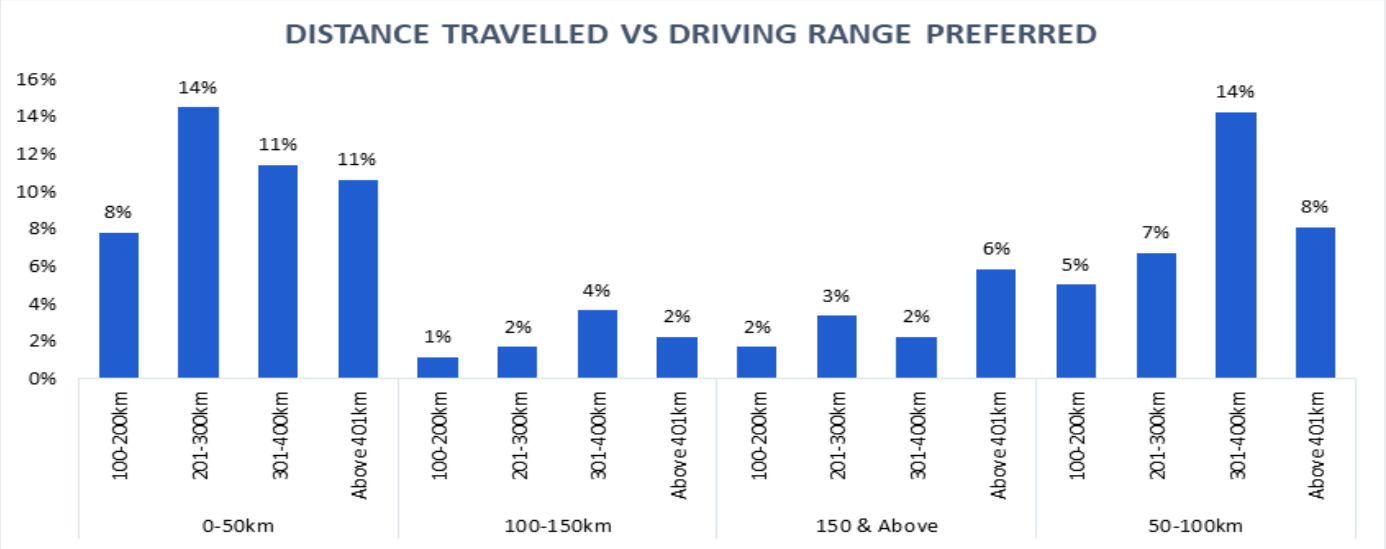
- *Distance Travelled by Consumer vs Driving Range Preferred*

Despite all the" kms travelled groups" the 201-300 & 301-400 Kms remains the most preferred driving ranges for the consumers.

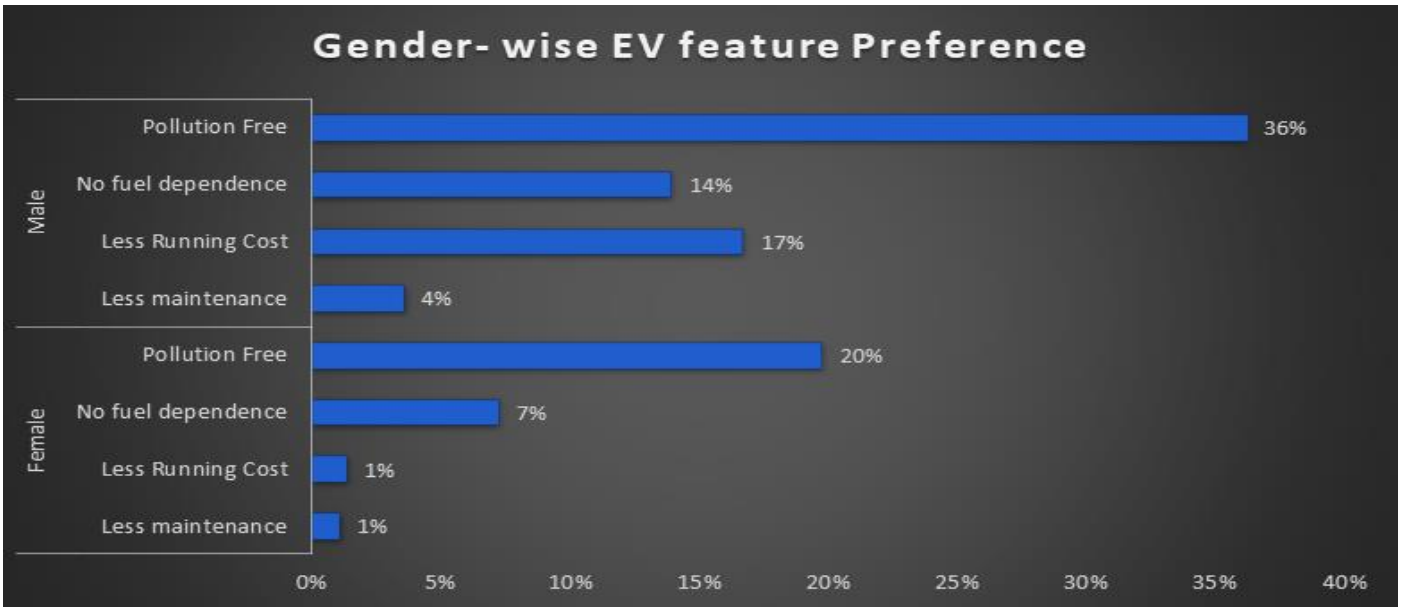


Graph 22 Distance Travelled VS Driving Range Preferred

- *Gender wise Preference for the Best Feature in EV 4W*

Table 17 Gender wise Preference

Row Labels	Count of Your Gender
Female	**29.53%**
Less maintenance	1.11%
Less Running Cost	1.39%
No fuel dependence	7.24%
Pollution Free	19.78%
Male	**70.47%**
Less maintenance	3.62%
Less Running Cost	16.71%
No fuel dependence	13.93%
Pollution Free	36.21%
Grand Total	**100.00%**



Graph 23 Gender wise Preference

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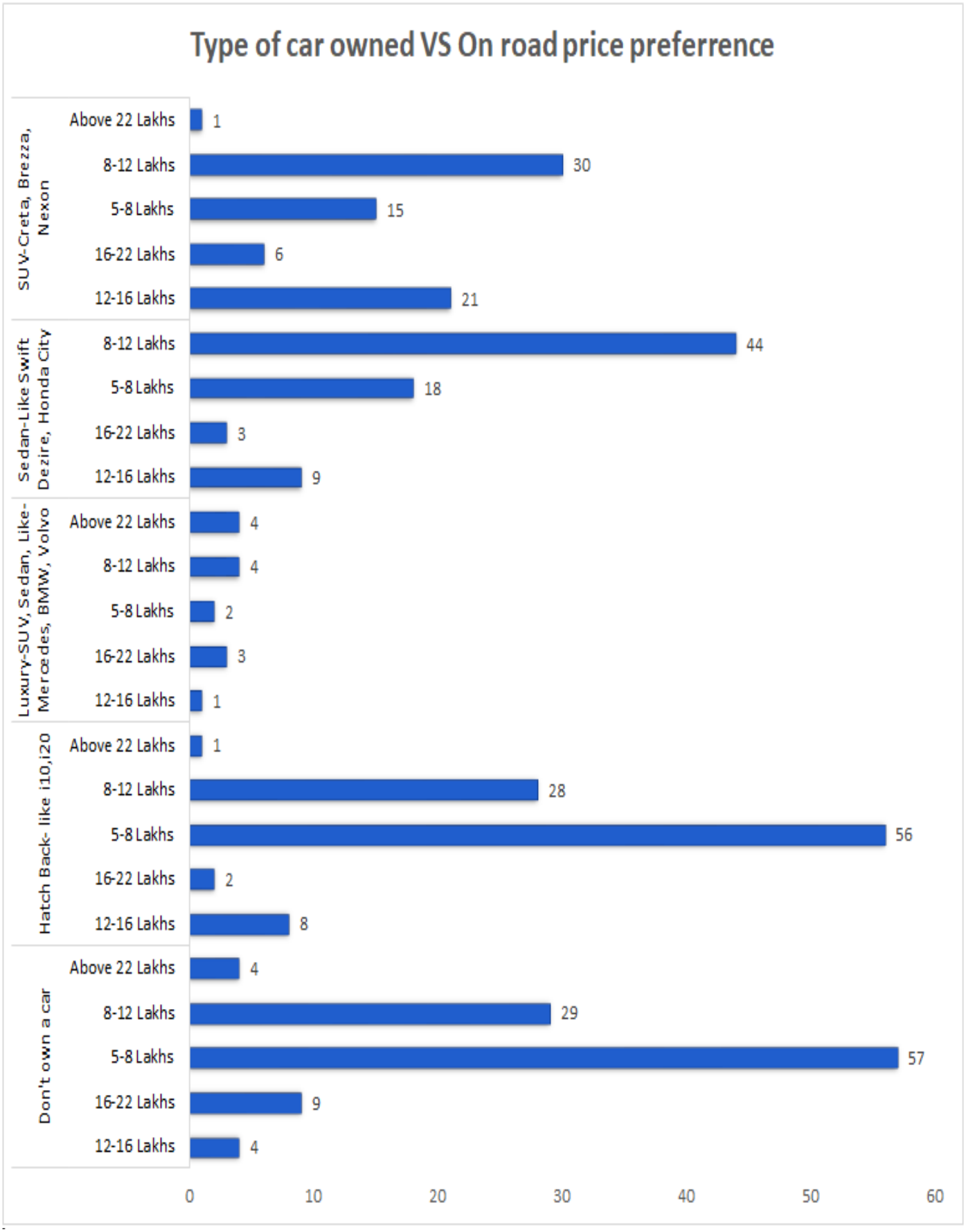
- *Type of Car own vs Preferred on Road Price for EV Cars*



Graph 24 Type of Car own vs Preferred on Road Price Preference

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CHAPTER FOUR
LIMITATIONS OF OUR STUDY

➢ *We have Identified few Limitations while Conducting the Study-*

- *High value products like car, jewellery etc have **complex buying behaviour** also the factors contributing to the final outcome is complex*
- *Survey filled by potential buyers can also have **response bias** (e.g., while filling the survey they may point out that pollution is their concern while buying EV the real reason could be cost effectiveness so the desire to appear right may lead to dilution in the survey)*
- ***Minute details** like customer interaction with the sales rep. & peer pressure while making purchase **cannot** be determined correctly*
- *The survey group ranges from **20-45 Years in our pool** because of that we could not study the behaviour of individuals with high purchasing power in **50s** & above*
- *The EV market is still nascent stage so the available products have limited features (like onset of touch screen phones) so the factor life-cycle factors can affect the same*
- *More detailed analysis can be done if we compare the survey done with the current buying trend in EV market*
- *We have not considered the fact that consumers who own more than one car in India can be easily converted to EV vehicles*

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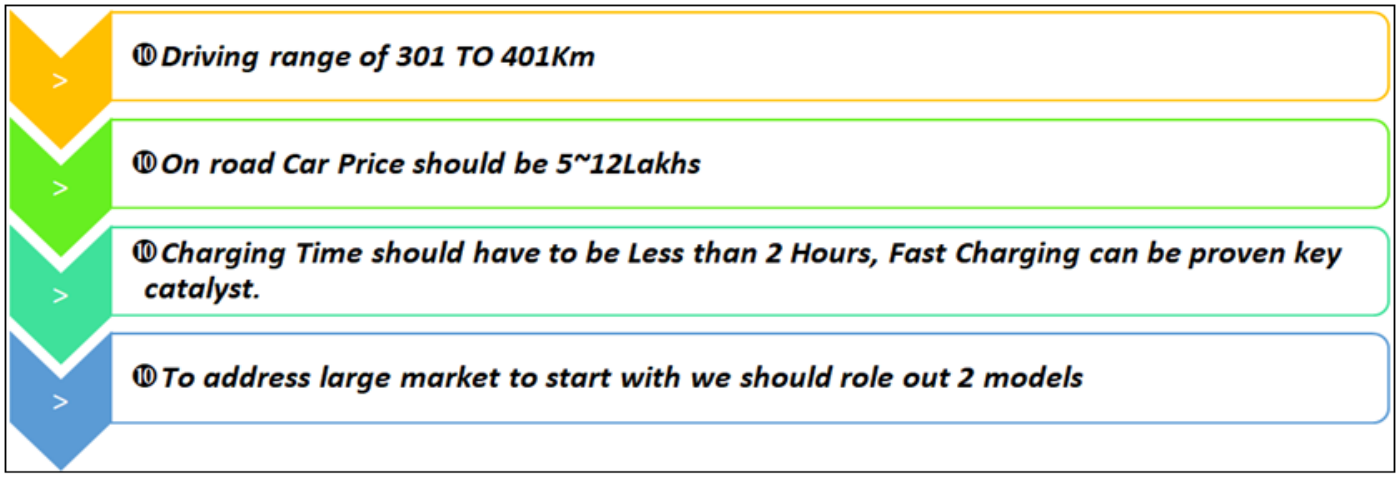
CHAPTER FIVE
CONCLUSION & CONSUMER INSIGHTS

- *Unless the technology advancement brings the overall cost down- the target audience will be the one who can afford to own the same & see it as a status symbol or those interested in social change it brings when comes to pollution.*
- *Fuel dependence & Vehicle Cost remains the prime factor that drives the purchasing decision for potential car buyers.*
- *The EV car market is also prone to the price sensitivity as per our survey though 211 out of 359 want to buy it in future (59%) the ideal on road price for majority remain between 5-8 & 8-12 lakhs which is 283 of the whole consumer pool which is 78 % of the responses.*
- *Product Strategy*

Fig 7 Product Strategy

- *Car Should have following essential features*



- *Mid Size Suv at a price point of 8-12Lakh*
- *Hatch Back at a price point of 5-8Lakh*

Fig 8 Tata Nexon-EV

Fig 9 Tata Tigor EV

- ***Note: Car Images are just for the presentation of Product Design/ type. There is not any kind of association with any Brand.***

Fig 10 Marketing Strategy

- *Digital media is the popular medium therefore for campaigns Digital Platforms will be first preference followed by Print/Tv Media.*
- *There is significant awareness required about Government policy/ concession schemes to consumers.*
- *Substantial efforts required to present the Benefit of EVs w.r.t. Operational Cost, Less Maintenance cost and overall ownership cost.*
- *Because the most of the consumer base is in Metropolitan and Urban area therefore to attract early adopters, we must give priority in campaigns for these areas*
- *Infrastructure-Charging Station non- availability is one of the most significant deterrent factors for adoption of EVs. Therefore, engagement with central & state Govt. and private players is necessary to create Charging infrastructure. Engagement at various industry forms like CII, SIAM, FADA,SMEV and AutoExpo. will be planned.*

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