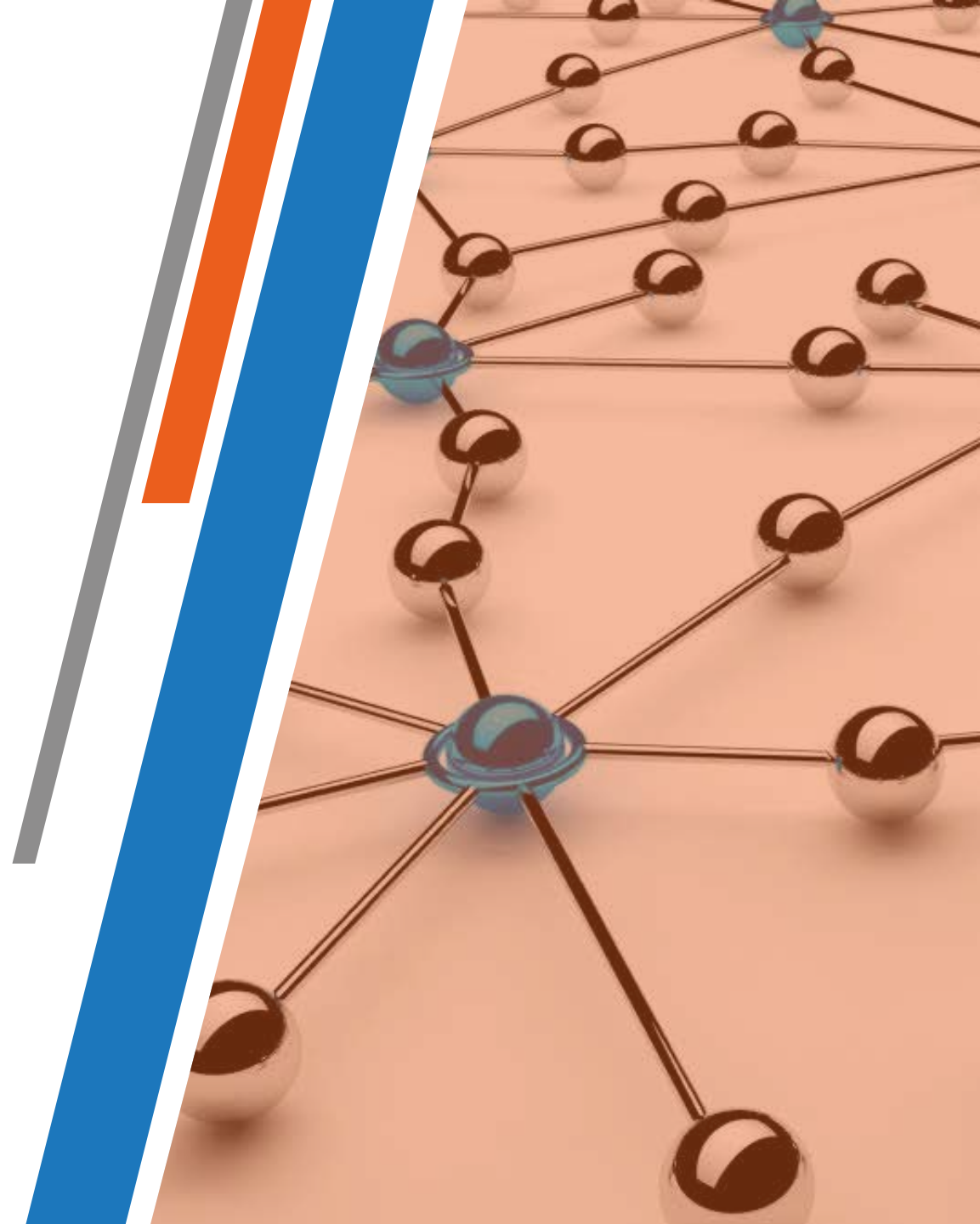




Syndicated Study: Electric Cars in India



Research Design - Specifics

TARGET GROUP



SEC A (NCCS)



Car Owners & Intending to buy a car in the next 12 months (for personal use)



Key decision maker/main influencer in the purchase of the car



RESEARCH OBJECTIVE

Perception & Attitudes towards Electric Cars in India

GEOGRAPHIES

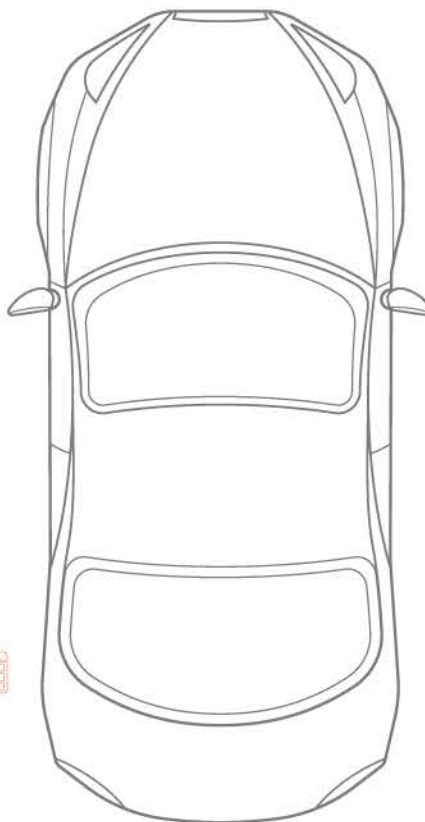
Centers: Delhi, Mumbai, Chennai, Bangalore, Kolkata, Hyderabad

METHODOLOGY

Online survey using online panel

FIELDWORK DATES

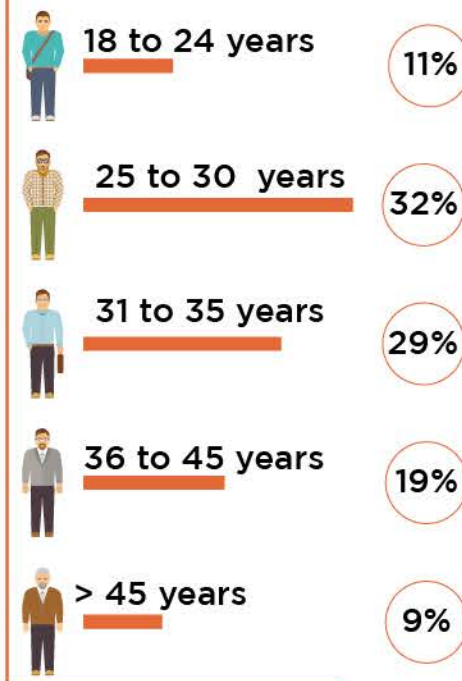
Jan 2018



Respondent Demographics

Total Sample Size: 2220

Age



Net-Monthly Household Income



NCCS

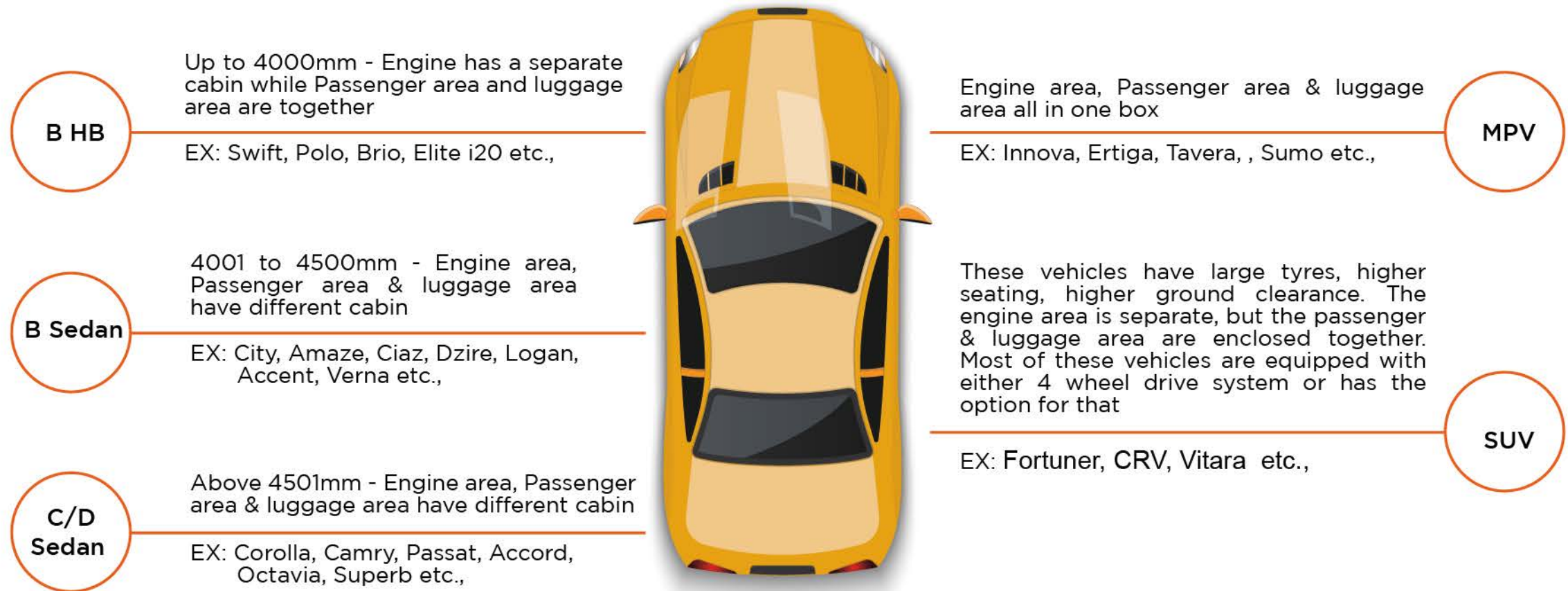
A1 - 91% A2 - 9%

Involvement in Decision Making

Only decision maker 77%
Key - influencers 19%
Joint decision maker 4%

Car Segmentation used for the Study

Car owned/intended to buy are classified basis the following definitions,



Note - All respondents in the survey, are aware of Electric Cars although they are not necessarily owners or intenders of the category.

A Study to Understand the Perceptions & Attitudes towards Electric Cars in India



Market Understanding & Government Initiatives

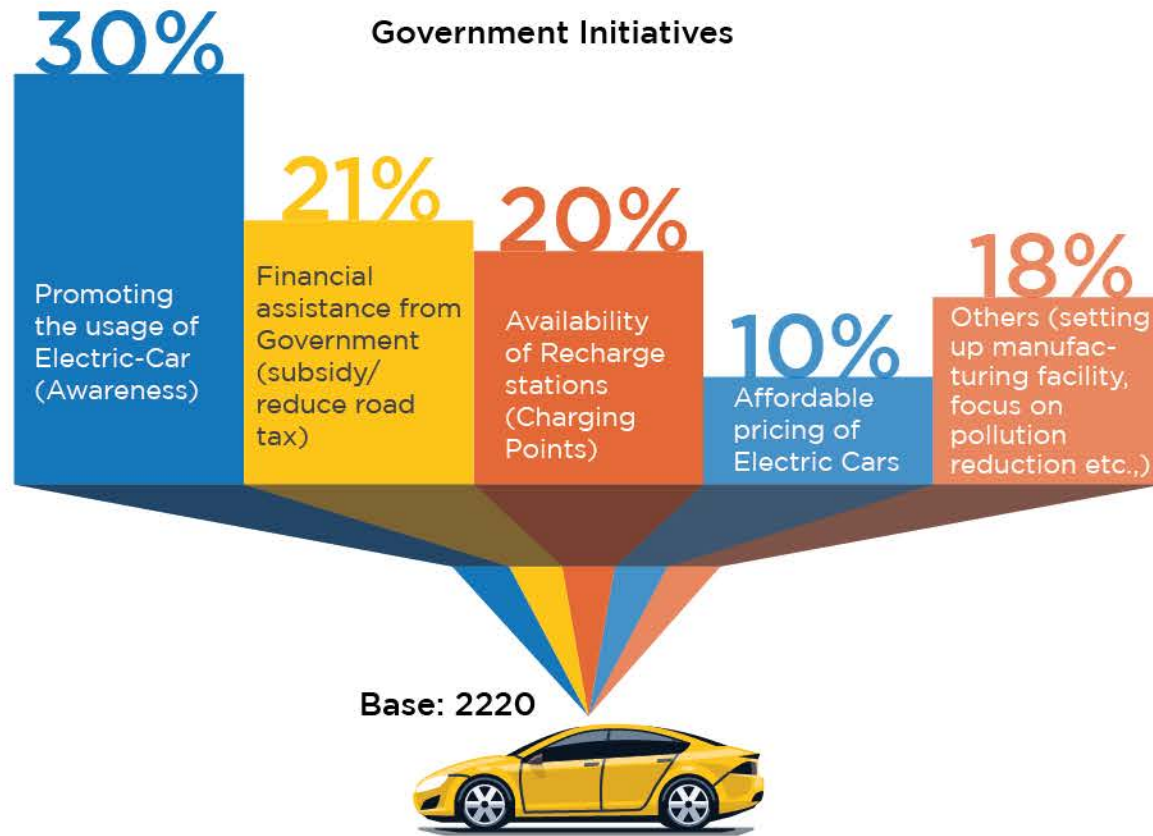
- India's electric vehicles industry is nascent with just 0.1 per cent global market share. The major challenges faced by this industry is high cost of battery, lack of infrastructure/charging stations, power deficit and lack of renewable sources of power/electricity generation.
- Although challenges seemingly outweigh the opportunities, the government has started taking initiatives on building infrastructure for EVs such as constructing charging stations and reducing the cost of batteries by facilitating technology transfer between the public and private sector
- India represents one of the world's largest and fastest growing automobile markets. Passenger vehicle sales in India crossed the three million milestone for the first time in 2016-17, with the segment witnessing a growth of 9.23 per cent. Leveraging this potential and with proper planning, if the objectives set out by the government for electric vehicles are met, it will be a great leap for the country towards a sustainable future. India will be able to address its problem of pollution – reduce its carbon footprint, save non-renewable fuel consumption (petrol/diesel) and thereby bringing down the costs.

Few Electric cars showcased at Auto Expo 2018



- Post mid of 2017, Government of India passed an important announcement - Piyush Goyal, Minister of State with independent charge for Power, Coal, New and Renewable Energy and Mines said that the Government of India (GoI) is working on a policy to facilitate an all electric-car fleet by 2030. Though the union budget allocated fund of Rs. 795 core for developing EV, which created a high expectation in terms of policies like lowering tax on EVs and their components i.e 12% of EVs and 28% on EV batteries were expected to come down to minimum 5% or zero. But this has not happened as expected which has created a more difficult scenario to adopt Electric Cars
- The Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) India which was launched in 2015 under the National Electric Mobility Mission (NEMM) aims at promoting eco-friendly vehicles in the country. It is being administered by the Heavy Industries Ministry. The scheme offers sops on electric and hybrid vehicles of up to Rs 29,000 for bikes and Rs 1.38 lakh for cars, thereby lowering their price for buyers. This program is further extended up to March 31, or till the launch of Phase-II of the scheme by Niti Aayog.
- Karnataka state government has implemented country's first electric vehicle policy (last September) in an attempt to promote electrical vehicles in the state. This policy is to benefit from the FAME India subsidized scheme. The state will purchase 40 electric buses, 100 four wheelers and 500 three wheelers. The subsidy support is also provided for setting up electricity charging infrastructure across state capital Bengaluru
- Further to this, the Maharashtra state government cabinet has given its nod to the state's Electric Vehicle Policy 2018 and it aims at creating an environment for the manufacture of 500,000 EVs in the state within the next five years.
- The 4 Indian prominent PSU jointly started a new venture called EESL which drives to overcome the market barriers for EVs like low demand and high financial risk for industry and high cost of ownership through innovative business model 'Pay-as-you-save' which includes bulk procurement, demand aggregation and payment model. The model of EESL ensures zero dependence on subsidies for introduction of transformative solutions. EESL makes the entire up-front investment for adoption of the transformative solutions, making it an attractive market. From the recent evidence EESL proved by ordering 10,000 Tata Tigor (Electric Car from Tata) In it, the state government proposes exempting e-vehicles from road tax and registration charges in Maharashtra.

Initiatives Indian Government must undertake in order to promote the adoption/purchase of Electric cars



Key Initiatives for Electric Cars in India

Government Initiatives

- Promote usage of Electric Cars / Vehicles
- Cost Reduction
 - Provide Subsidies
 - Reduce Road Tax
- EV Policies

EV manufacturers & Infrastructure providers

- Reduce Battery Costs
- Indigenous manufacture to reduce cost
- Charging Stations

Q. According to you, what should our Indian government do in order to promote the adoption/purchase of Electric Vehicles specifically cars?

Barriers & Perceived advantages of buying an Electric Car

Anxiety of running out of charge/difficulty in planning long trips is stated as the reason by close to 90% of car intenders for not wanting to buy an Electric car

Barriers for buying Electric Cars

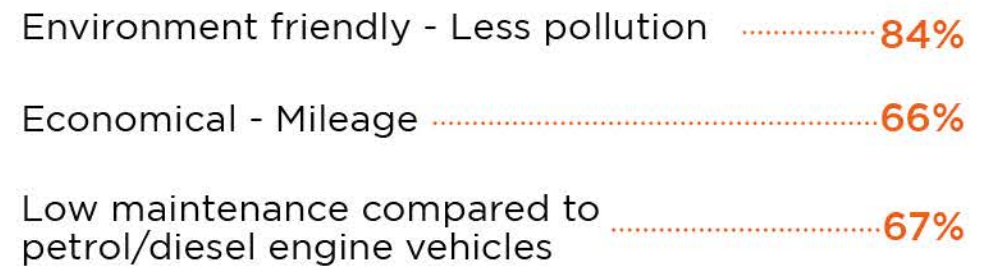


Base: 564 – Among those who are not willing consider/recommend an electric car for future purchase

90% of the Indian Consumers claim that they would have bought an Electric Car instead of their Petrol/Diesel cars if they were more options available to them during purchase – options in terms of price ranges, models, brands etc.,

Less Pollution is the perceived advantage of Electric Cars by more than 80% of the car buyers

Perceived advantages of Electric cars over Petrol/Diesel Cars



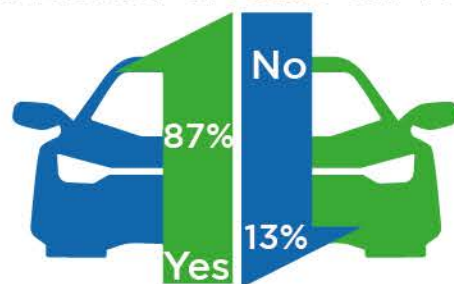
Base: 2100 – Among those who are willing consider/recommend an electric car for future purchase

Future Purchase – Electric Cars

But are these Consumers, willing to consider Electric Cars for their future or recommend Electric Cars to others i.e. friends & family?

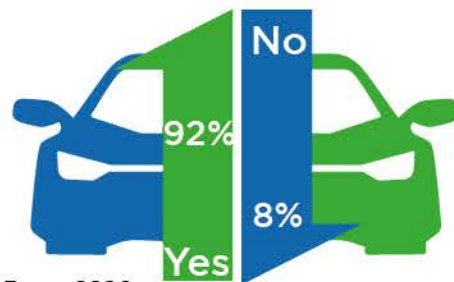
Given that previous usage & experience of Electric Cars is low, majority claiming to consider (not as their First Choice / most preferred) Electric for their future purchase– is subject to availability of more options and addressing their barriers.

Might consider electric car for next purchase:



Base: 2220

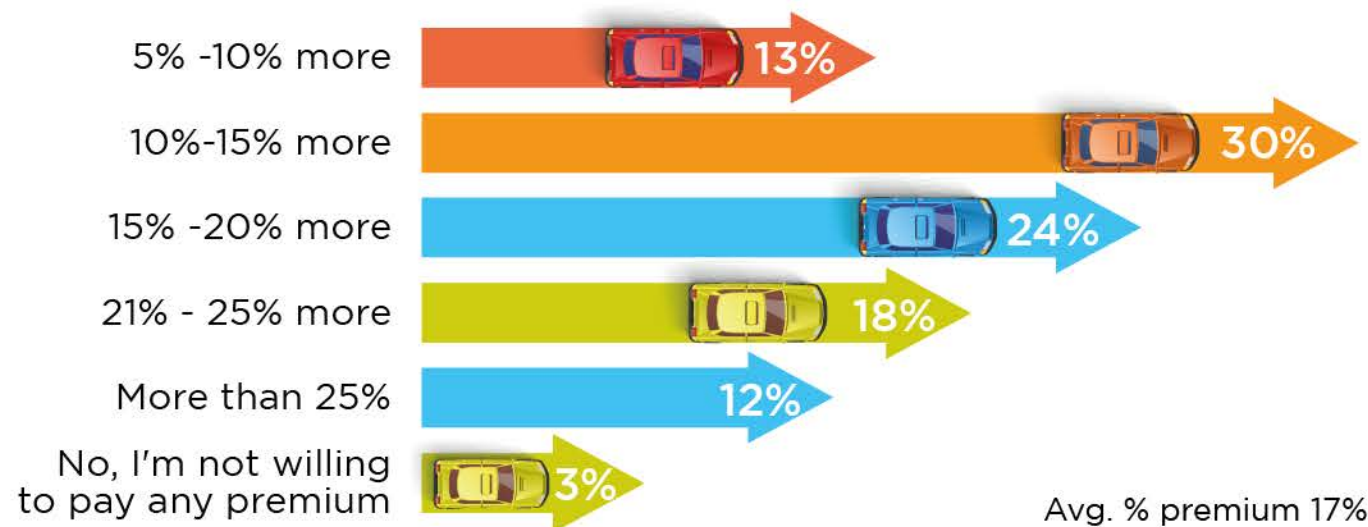
Recommend electric car for family and friends



Base: 2220

How much premium are they willing to pay?

Indian consumers are willing to pay on an average 17% more for an electric car than an petrol/diesel engine car they are intending to buy



Avg. % premium 17%

Market seems to be attractive for Electric Cars, as close to 90% of the car intenders are willing to consider one for their next purchase and also recommend it to others. They are quite willing to pay a premium for an electric car as well – provided their key barriers are addressed and more options are available to them

Q. For your next car purchase, could you please tell us if you will be willing to buy a Electric Car provided more options are available & your concerns addressed?

Q. Will you recommend an Electric Car for any of your family or friends provided more options are available & your concerns addressed?

Q. You have said that you are willing to purchase an electric car, Could you please tell us how much premium (in %) are you are willing pay for an electric variant in the same segment of car that you are willing to purchase?

Electric Car - Brands



Brands associated with Electric Cars

| | Association |
|------------|-------------|
| Mahindra | 29% |
| Tesla | 19% |
| Toyota | 9% |
| Tata | 9% |
| Base: 2220 | |

Brand willing to buy an Electric car from in case they launch one in future

| | Willingness to buy |
|------------|--------------------|
| Honda | 79% |
| Maruti | 75% |
| Hyundai | 75% |
| Toyota | 74% |
| Ford | 71% |
| Base: 2220 | |

Brand currently owning & willingness for future consideration/recommendation to others incase electric car is launched from the brand owned

| | Own | Consider | Recommend |
|------------|-----|----------|-----------|
| Maruti | 18% | 16% | 16% |
| Hyundai | 18% | 15% | 16% |
| Honda | 17% | 16% | 16% |
| Ford | 9% | 8% | 8% |
| Mahindra | 7% | 5% | 6% |
| Toyota | 6% | 5% | 5% |
| Base: 2220 | | | |

Potential for cross-sell/up-sell high for electric cars.

Q. When talking about 'Electric Cars' could you please tell us which brand of electric car comes to your mind? (OPEN END)

Q. Which of the following brands would you like to buy an Electric car from if they do launch one in the future?

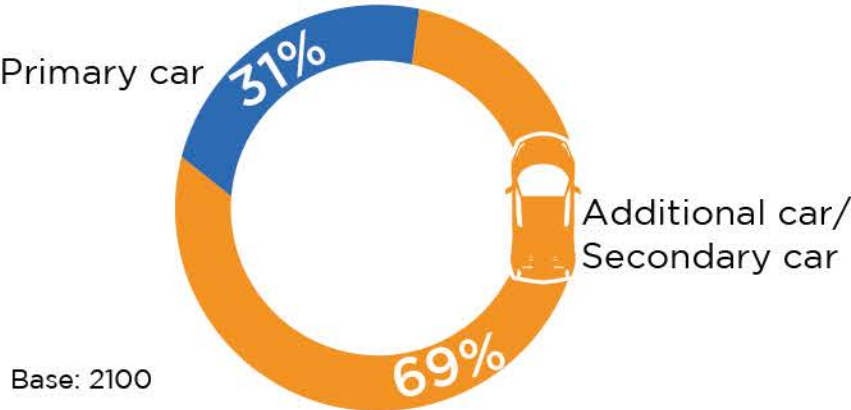
Q. If the same manufacturer / brand of car that you currently own comes out with an Electric Variant, will you be willing to purchase it? - could you please tell us the type, make and model of the cars you own? - Make & Model

Q. If the same manufacturer / brand of car that you currently own comes out with a Electric Variant, will you recommend it for any of your family or friends?

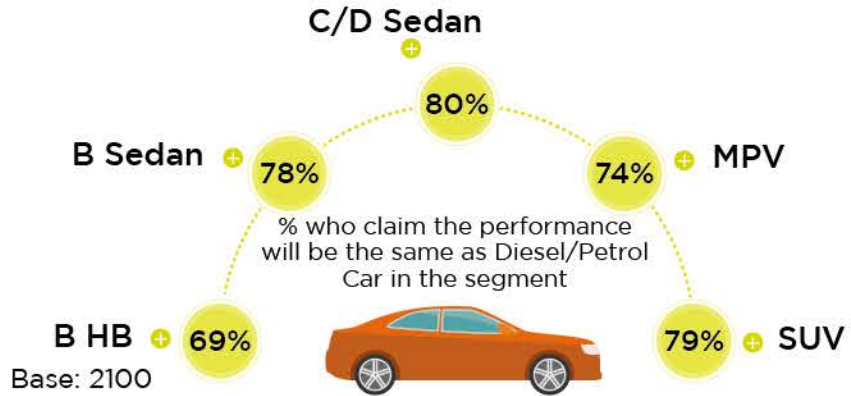
Usage & Expectations from an Electric Car

Status of the Electric Car willing to purchase

1/3rd of those intending to buy an Electric Car (provided more options are available and barriers are addressed) claim it would be used as their primary car.

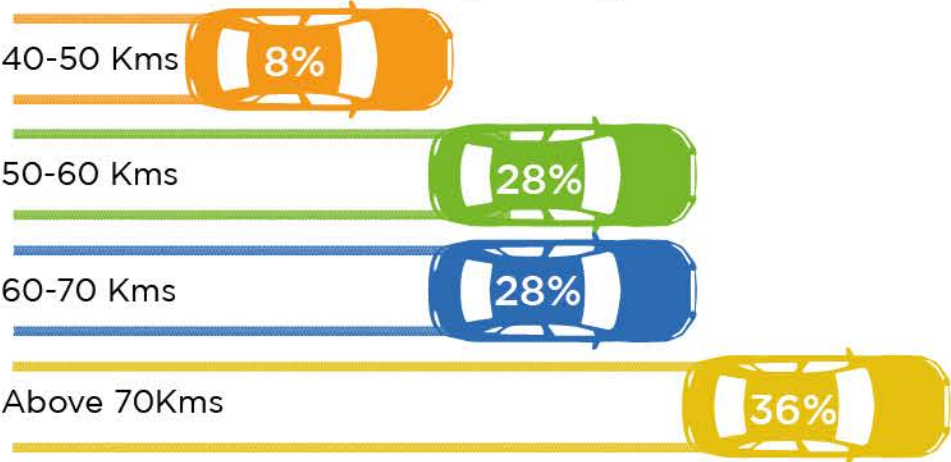


Expected Power and Performance of Electric car as same as Diesel/Petrol car



Majority perceive the mileage per single charge is around 70kms and this much lower than the actual capacity available in the market - Hence we see an evident lack of awareness

Perceived mileage per single charge



Among those who are willing consider/recommend a new car for purchase

| Usage frequency | Week days | Weekends |
|------------------------------|------------------|-----------------|
| | 91% | 9% |
| Usage limit | With in the city | Out of the city |
| | 98% | 2% |
| Short/Long haul destinations | Short | Long |
| | 96% | 4% |

Among those who are willing consider/recommend a new car for purchase

Base: 2100

Base: 2100

- Q. You have said you will buy an 'Electric Car', will it be an additional car or primary car in your household?
- Q. How many kilometers do you think a single charge would survive for an electric car?
- Q. According to you, do you think that an 'Electric Car' will be able to give you the same power/performance similar to petrol/diesel engine cars in your category?
- Q. Intended Usage of Electric Cars - Will you use it during weekdays or weekends or both? Will you use it only within city or outside city as well? Will you use it for long distance or short distance travel?

Electric Car – New Launches

Awareness of an International Brand launching Electric car in India

Yes
67%

No
33%

Base: 2220

Tesla **21%**

Toyota **8%**

Among those aware: 1487

Source of Awareness

Newspapers/Magazines **28%**

Social networking sites **24%**

On google when browsing **18%**

Auto Blogs/Articles **6%**

Among those aware: 1487

Awareness of an Indian Manufacturer (apart from Mahindra) launching Electric Car

Yes
71%

No
29%

Base: 2220

Tata **39%**

Maruti **15%**

Among those aware: 1575

Source of Awareness

Newspapers/Magazines **50%**

On google when browsing **37%**

Social networking sites **36%**

Auto Blogs/Articles **26%**

Among those aware: 1575



Q. Are you aware that mid of this year, a reputed international car manufacturer/Indian Manufacturer apart from Mahindra shall be launching their Electric Vehicles (Evs) in the Indian market?

Q. Can you please name the international car manufacturer/Indian manufacturer who shall be launching their Electric Vehicles (Evs) in India?

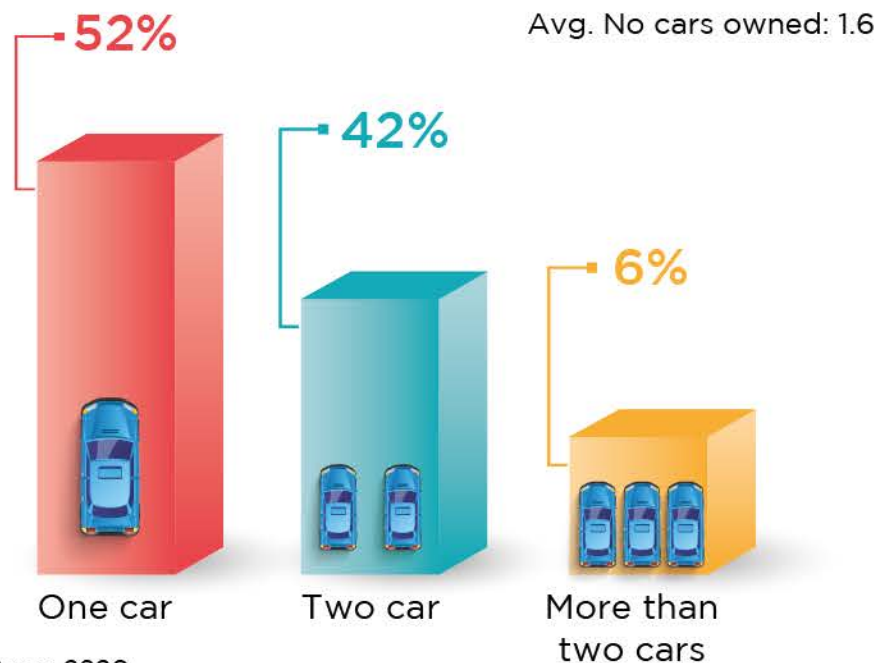
Q. Could you please tell us from where did you come across this information about the international car manufacturer/Indian manufacturer launching their Electric Vehicles in India?

Car Ownership/Intended to Purchase - Profile



Car Ownership – No. of cars & Body Type/Segment Owned

Number of Cars owned



Close to 50% own more than 1 car – this is slightly higher in the national capital Delhi, with close to 2/3rds of the households having multiple car ownership

Body Type of Cars Owned

| | No. of cars owned | | | |
|------------|-------------------|-----|-----|------------------|
| | Total | One | Two | More than 2 cars |
| Base | 1005 | 326 | 524 | 155 |
| BHB | 22% | 26% | 20% | 20% |
| B Sedan | 32% | 39% | 30% | 25% |
| C/D Sedan | 11% | 9% | 10% | 19% |
| MPV | 6% | 4% | 7% | 10% |
| SUV | 27% | 22% | 31% | 23% |
| Cross over | 1% | 1% | 2% | 3% |

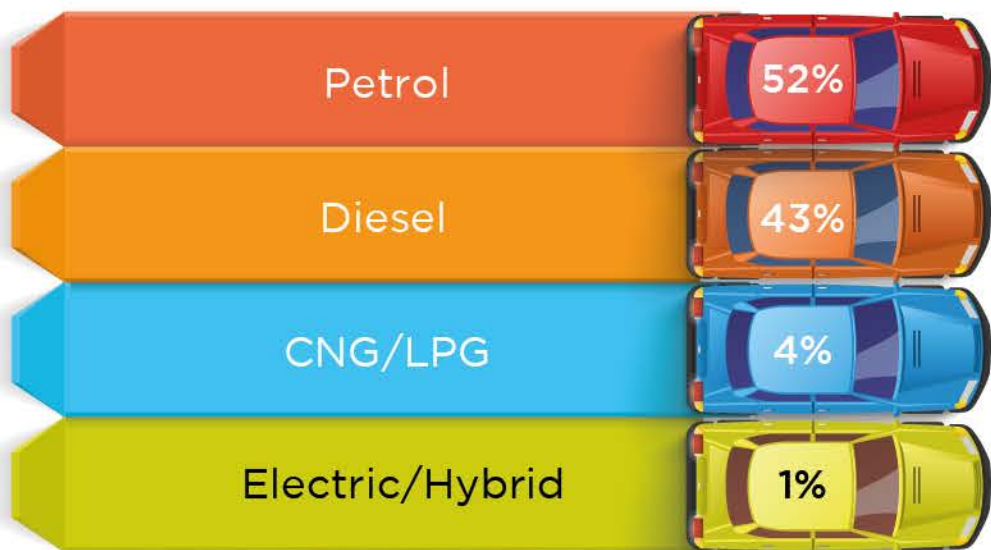
More than 30% of car owners have a Sedan closely followed by SUV

Note: The percentages are calculated bases the responses i.e. no. of cars owned/considered/recommended and not on respondents

- Q. We would like to know how many cars are currently owned by you or any member of your household? We would like to know about the cars that you own for personal use and not for commercial purposes
- Q. Could you please tell us the type, make and model of the cars you own?

Car Ownership – Engine/Fuel type

Engine/Fuel type owned



Base: 2220

Engine/Fuel type owned by Car segment

| Segment/Car body type | | | | | | |
|-----------------------|-------|------|---------|-----------|-----|-----|
| | Total | B HB | B Sedan | C/D-Sedan | MPV | SUV |
| Petrol | 52% | 69% | 56% | 49% | 28% | 40% |
| Diesel | 43% | 26% | 40% | 44% | 63% | 54% |
| CNG/LPG | 4% | 4% | 3% | 5% | 9% | 4% |
| Electric/Hybrid | 1% | 1% | 0% | 2% | 0% | 1% |

More than 50% of the cars owned is Petrol Variant.

Adoption/purchase of Electric/Hybrid cars minuscule.

Note: The percentages are calculated bases the responses i.e. no. of cars owned/considered/recommended and not on respondents

Brand Promiscuity

← Brands Owned →

Brands Considered ↑

| | Honda | Hyundai | Maruti | Ford | Toyota | Mahindra | Nissan | Renault | Chevrolet |
|-----------|-------|---------|--------|------|--------|----------|--------|---------|-----------|
| Honda | 36% | 41% | 41% | 34% | 56% | 41% | 44% | 36% | 40% |
| Hyundai | 34% | 35% | 33% | 32% | 25% | 32% | 41% | 29% | 20% |
| Maruti | 23% | 30% | 33% | 23% | 26% | 18% | 31% | 24% | 20% |
| Ford | 28% | 22% | 21% | 25% | 26% | 20% | 28% | 24% | 29% |
| Toyota | 24% | 23% | 23% | 15% | 33% | 36% | 28% | 26% | 17% |
| Mahindra | 16% | 13% | 10% | 22% | 26% | 20% | 13% | 21% | 17% |
| Nissan | 19% | 16% | 20% | 17% | 23% | 17% | 15% | 24% | 9% |
| Renault | 16% | 10% | 17% | 23% | 14% | 12% | 28% | 12% | 26% |
| Chevrolet | 11% | 9% | 8% | 15% | 11% | 11% | 13% | 7% | 20% |

Honda is the most desired brand across various brand owners

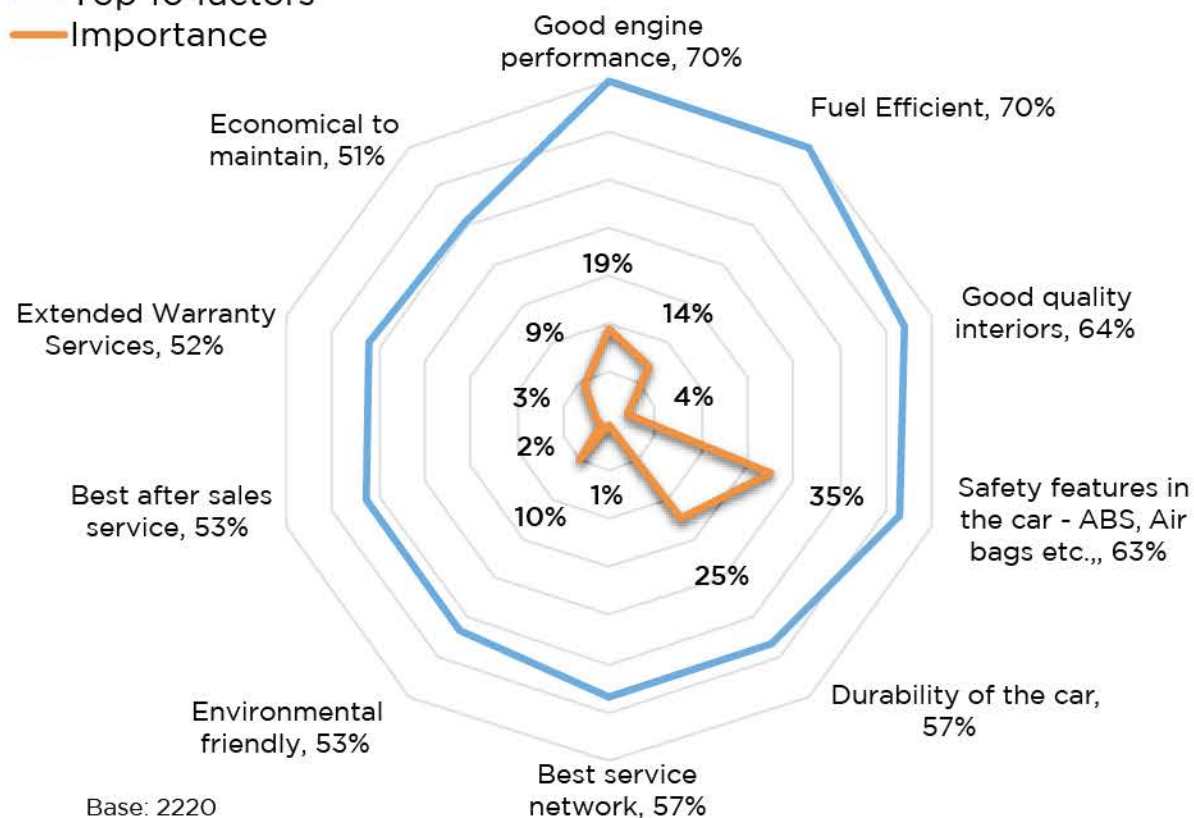
Honda, Maruti, Toyota, Mahindra owners are satisfied with cars that they are willing to re-consider for their future purchases.

Note: The percentages are calculated bases the responses i.e. no. of cars owned/considered/recommended and not on respondents

Factors Considered – Purchase of a new car

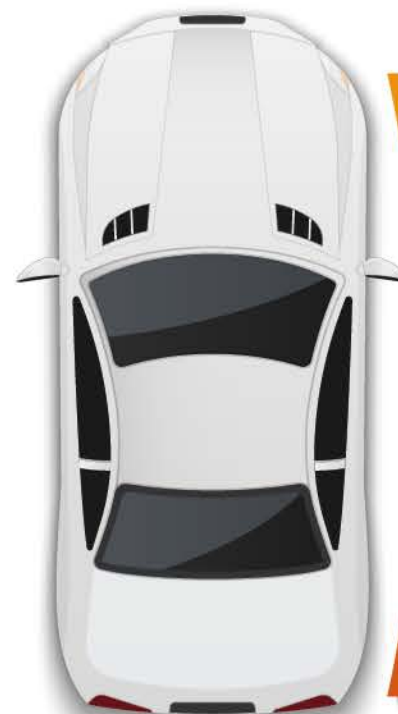
What are the factors considered by an Indian consumer while purchasing a new car?

— Top 10 factors
— Importance

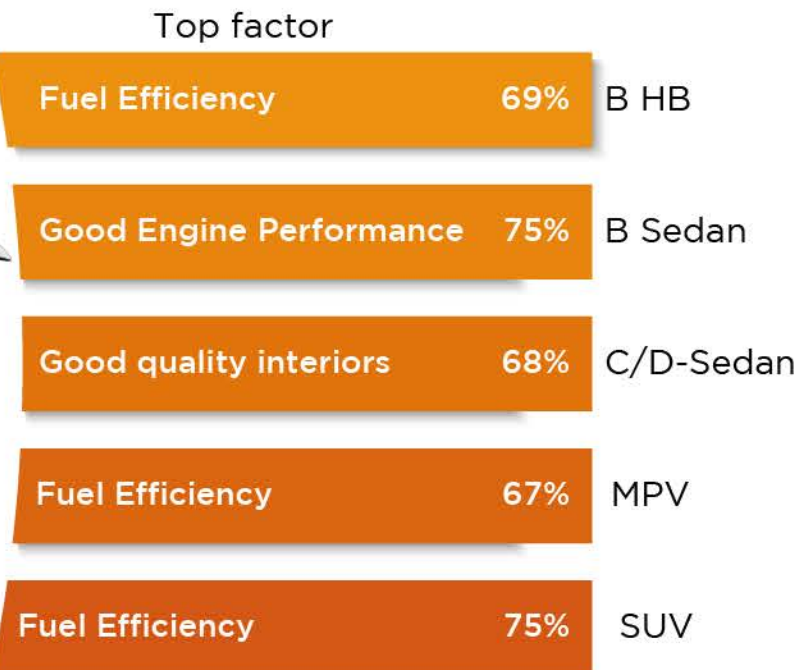


Engine Performance & Fuel Efficiency are two most important factors considered by an upper middle class Indian consumer. Safety features in the Car like ABS, Airbags considered to be the most important factor.

Top factors by segment/body type of the car intended to purchase



Base: 2220



Apart from B HB, all other segment car intenders consider Safety features in the Car like ABS, Airbags to be very important

Q. There would be a number of factors that we shall consider or check before purchasing a car. Kindly please take a look at the factors mentioned below and please tell us which of these factors you have considered / will consider before purchasing a car?

Q. Among all the factors that you consider, kindly please indicate which are the top 5 important factors for you? (By ranking them from 1-5)

Summary

Electric Car Ownership/Perceptions and Attitudes :


- Current ownership of Electric Cars very low/negligible – just about 1%.
- Apparently, Government initiatives would play a pivotal role in the adoption of electric cars. Promotion/creating awareness of Electric Cars, Financial assistance in terms of subsidies or reduced taxes, Providing infrastructure like charging stations are some of the top expectations
 - Anxiety of running out of charge/Difficulty in planning for long trips stated as the key barrier apart from lack of infrastructure and cost of the vehicle, among those not willing to consider/recommend an electric car to others for future purchase
 - Majority i.e. more than 60% expect a mileage of less than 70 kms per single charge from an electric car
 - Among those who are willing to consider/recommend one, claim Electric Cars to be environmentally friendly, economical and low maintenance than Petrol/Diesel cars
- With due Government support and by addressing barriers Electric Car is an attractive proposition as majority are willing to consider (87%)/recommend (92%) an electric car for future purchase.
- Electric car, would be an additional car in the household rather than the main car for about 70% of the respondents. The proposed usage for the car is also in line with perceived barriers – majority claim to use the electric car only within the city and short haul destinations
- Almost all of them are willing to consider/recommend an Electric car from the car manufacturer they currently own. Hence potential for cross-sell/up-sell high. And majority are willing to pay a premium for an electric car – on an average 17% more than the cost of the car in the category.
- Mahindra and Tesla are the top brands associated with Electric Cars. And, Honda is the most preferred brand to buy an Electric Car if it launches one in future.

Existing Car Ownership/Future purchase behavior:

- Multiple car ownership seen among 50% of the households. Sedan followed by SUV is the widely owned category.
- Maruti, Hyundai and Honda are the top brands owned. Maruti dominates the hatchback (B HB) category, while Hyundai is widely owned in the Sedan segment (B –Sedan & C/D Sedan) and Honda is popular in the B –Sedan category
- Expectedly, petrol variant is the popular across categories except for MPV and SUV. As mentioned earlier, Electric Car ownership is negligible
- A car buyer evaluates close to 3 cars on an average for their future purchase – SUV and Sedan are widely considered by this section of people which is in line with their ownership
- Honda is the most desired brand. Satisfaction high among owners of Honda, Maruti, Toyota, Mahindra as majority of them are willing to consider the same brand for future purchase as well
- While Safety Features like Airbags, ABS etc., are considered to be very important, Engine performance and Fuel Efficiency are top factors considered and evaluated before purchase of a car

Get in touch



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