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Original Research Article

THE INITIATION OF ELECTRIC CARS IN INDIA – START UP INDIA

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Abstract: As India talks about electrification of cars by India, till 2030, carmakers are the ones that are going to make all the difference in getting there. Indian government in return has also planned on assisting the movement of electrification of transport vehicles due to several environmental problems in the country. The biggest name in the Electrical vehicle industry thus far is Tesla, Inc. Elon Musk, CEO and Founder of Tesla Inc, has himself shown interest in launching Tesla cars in India, although the vehicles sold by them are going to appeal to the higher class, majority of India consists of middle class society. This opens up huge markets for start-ups with mid-range value cars. This brief original paper reports on India's current acceptance towards Electric Vehicles (EV) and whether electric cars have the potential to dramatically change the automotive industry in India. It also highlights the strategy used by Tesla Inc. and other EV manufacturers which is useful data for a start-up in EV industry in India. The methods used for this Argumentative Research Paper's Data collection are of two types, Primary and Secondary Methods. Primary Data is collected for the first time via questionnaire data collection using Simple Random Sampling Method. The secondary data is the data which has already been collected by different sources and mediums – Internet, Magazines, and Newspapers.

Keywords – Electric cars, Electric Vehicles, Tesla Inc.

Introduction: Tesla Motors is an automobile manufacturing company headed by Elon Musk who is trying to change the perception of electric vehicles and competing with the traditional petrol cars. Since the inception of the company in 2003, Tesla Motors has carved a niche in the automobile industry with the manufacture of energy efficient cars. Tesla currently has three models in production; they range from luxury to affordable type. They are:

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MODELS	PRICE in □ (Approx)	Range (in kms)	Type
MODEL 3	35 Lakhs	355	Affordable Sedan
MODEL X	55 Lakhs	475	Crossover SUV
MODEL S	61 Lakhs	540	Luxury Sedan

Due to the affordability and all electric features, Model 3 is set to be the first Tesla brand car released to mass market in India by 2019. Elon Musk has initiated talks with the government to enter India through the single-brand retail route, which comes with several riders including mandatory sourcing of up to 30% of the value of goods sold in the country. Even though it is the lowest costing car from the electric vehicle giant Tesla, it is still a lot more than the budget of a middle-class family.

Although electric cars have many pros over petrol cars, it also has its cons. For example, charging time taken for the car to get back on road and once it is on the road, its limitation by its short range. Economies of countries like China and India offer mass production opportunities using low cost labour force and also benefitting subsidies from government. India has a population of over 1 billion people, a growth rate of over 8% and expanding middle class. This is the exact target audience for an electric vehicle Start-Up company.

The objective of this research is to find out if India is the right customer for electric cars and how will the country welcome the emission-less future that it is in need of.

Objectives:

- To find out if fully electric cars are capable enough to convince traditional petrol car owners to switch.
- To predict the response from difference class and society of Indians to the launch of Electric Vehicles by Start-ups for marketing purposes.

Hypothesis:

- **H1:**Petrol car owners will willingly switch to electric cars made by a Start-Up company as soon as the cars are launched
- **H2:**Petrol car owners will not show interest regarding electric cars made by a Start-Up company at first but more and more people will get involved in the movement as they learn about the advantages of the same
- **H3:**Petrol car owners continue to use traditional cars and do not consider switching to all electric cars made by a Start-Up company

Literature Review:

Marketing Strategy of the most successful electric car in India (Mahindra E20): Mahindra bought Reva Company from Chetan Maini in 2010, Mahindra then tried to put capital into the electric car company. One of the first activities that Mahindra did was to rebrand the Reva cars to e2o. The first e20 was launched in 2013 replacing the two door Reva car. The auto world was looking for some kind of revolution in the electric car segment when Mahindra took over the Reva Company. But alas the status quo remains even today.

In 2016, the company retired the two door e2o and launched the four-door hatch branded as e2o plus. The change reflected the lukewarm response to the two-door car. E2o plus is a standard electric hatchback which looks more like a normal car where the earlier Reva and e2o looked more like a toy car. The company feels that the changes will fuel more consumer interest and adoption.

But odds are stacked against the electric car as of now in India. Despite the higher fuel cost and increased emissions, the government has not looked at making the electric vehicle market - its

priority. The infrastructure for EV like charging stations are not existing in India. However, the silver lining is the stated objective of the Indian government to have 100% EV nation by 2030. Moreover, the government also plans to fund 60% of R&D expenses in this field to reduce the cost of technology. So in one way, the path looks bright but the current market and marketing condition for e2o plus looks bleak. The price is the villain. The brand is priced between 6.3 lakh to 10 lakh and there is a huge replacement cost of around Rs 3 lakh for the battery in 5 years. Although the cost of running the car is dirt cheap, the cost of ownership together with the battery replacement cost makes the car unviable purchase for a normal buyer.

e2o Plus is positioned as a city car. The brand is banking on the low running cost, non-polluting nature as the USPs.

Analysis: In this paper, we will analyse the launch of all electric cars or launch of Tesla cars in other countries which show similar characteristics as India. This data provides useful ideas and techniques for marketing electric cars for Start-Up companies.

Electric Cars in Norway: Currently, Norway is the leader in producing electric vehicles and supplying it in the market. Norway wants to stop producing and ban all use of petrol and diesel car by 2025. Around a third of cars sold in 2016 in Norway are electric. In Bergen, a city in Norway, electric cars have an almost 50pc market share of the year's sales.

The reason for Norway's leadership in producing electric cars is the encouragement provided by the government by the giving those benefits and perks, as means for solving the environmental problems. Buyers do not pay import tax and VAT on plug-in cars and end up saving a lot of money.

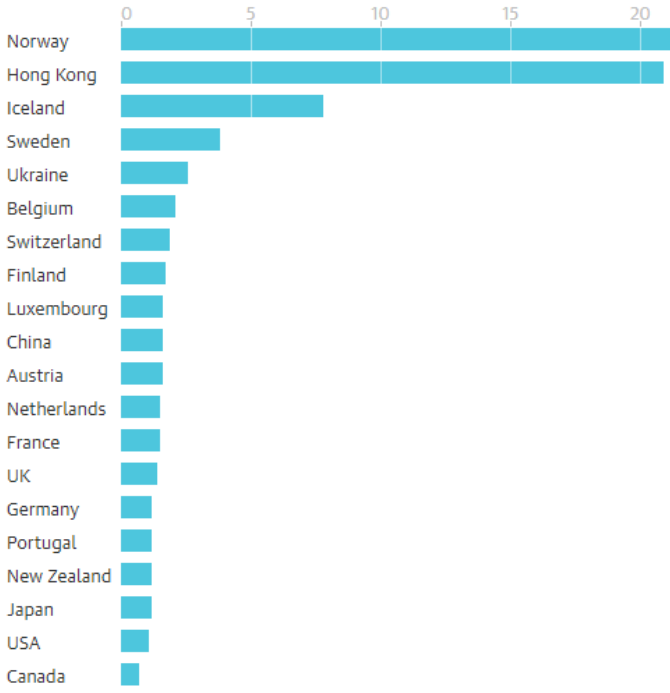
The running cost is lesser than petrol and diesel since electricity is cheaper. The road tax has been brought down and will be dropped down to zero next years. People that own an electric vehicle in Norway do not have to pay for the road tolls, ferry fees, and city emissions charges than other Norwegians have to. Furthermore, they can park for free and bypass traffic by driving in some bus lanes. Despite taking all the efforts in successfully engaging the Norwegians towards electric cars, there is no guarantee that the government will continue providing these beneficial schemes for electric cars. The government made headlines when the made propositions to end tax exemption for the heaviest electric cars, which was then labelled as "Tesla tax" because this proposal would only initially affect the two Tesla models' car owners. Nonetheless, this provides proof that if the government takes up the initiative and gets the citizen in the country interested in the movement of shifting towards a sustainable future, the customer response will be tremendous and overall make the human life better. The Indian government has also shown enthusiasm towards turning the transportation to electric and emission-free. They have introduced various electric buses for public transit and allowed subsidies to electric car buyers. This increases the appeal of electric cars for buyers in the market and can be beneficial for Indian Start-Ups in the electric car industries.

Adaptation to Electric cars in the world as per 2017: The UK and France are making room for EV movement. The UK Government has declared a ban on sale of all new diesel and petrol cars by 2040 in order to encourage people to switch to electric and hybrid vehicles. The Committee on Climate Change, an advisory body, also declared that electric cars should make up at least 60pc of new vans and cars sold in the UK. France will also join the movement and put a ban on the sale of all petrol and diesel vehicles by 2040. Sale of Tesla in China rose to $1.07 billion in the year 2016 from $319 million in 2015. Second-biggest market was Europe in the third quarter for EVs with 24 percent of sales.

Electrified transport market continues to grow and flourish as charging network becomes more approachable and manufacturers launch more models with long driving ranges. In 2017, a

large number of established carmakers from Jaguar, Land Rover to Volvo Cars announced plans to bring electric versions of their vehicles to market in the next few years. Many governments have also embarked the journey for cleaner transport, few driven by the emissions-cheating scandal that engulfed Volkswagen AG. The target for Netherlands that all new cars sold will be emissions-free is by the year 2030. China, the world's largest auto market is pondering its own ban and California is considering following the suit. The world is accepting the change caused by the current capability of EVs and it also results as higher opportunity for Start-Ups in this industry.

The adaptation in a few major countries are as follows:



Percentage of new car sales that are electric, first half 2017

Source: EV-volumes.com

Countries from this graph (Ex: China) show a similar trait in characteristics such as culture and market response to India. These analytics are useful to predict the initial response of the audience in India by Start-up companies and also to plan out strategies for marketing its cars in the best way possible.

Present and Future of Electric Vehicles in India: The only electric vehicles being produced in India is by Tata and machined electric. Mahindra is said to be working on a longer range and a more powerful electric vehicle. As if for now, the cars offered in the market are limited to a range of 140km and with a top speed of 80km/h. Increasing the battery size to 350V capacity will help improve the range to about 350km and the top speed to 200km/h. This would fulfil the needs of the inter-city travellers and also help tackle the problem of range anxiety for the owners of electric vehicles. Mahindra has also recently stated that the electric vehicles produced by them have covered a total distance of 50 million kilometres on Indian roads.

The government is also actively taking measure to motivate customers on buying electric cars by initiating Phase-1 of the FAME scheme (Faster Adoption and Manufacturing of Hybrid & Electric Vehicles), a programme of perks that are offered to Electric car buyers to encourage sales and help adoption. Under this scheme, a total of 150,550 hybrid and electric vehicles received benefits till the time of July 26, 2017.

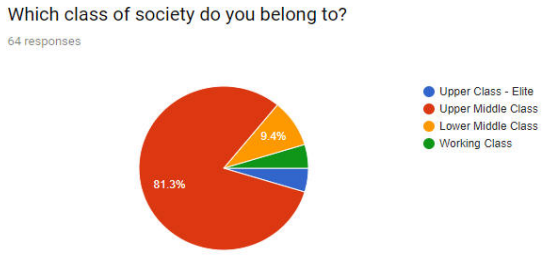
A recent study also showed that if India shifts from running diesel and petrol cars to electric cars, it would save about 64 percent of the energy demand for road transport and 37 percent carbon emissions by 2030. Moreover, the country can approximately save up to 60 billion dollars in petrol and diesel costs by 2030.

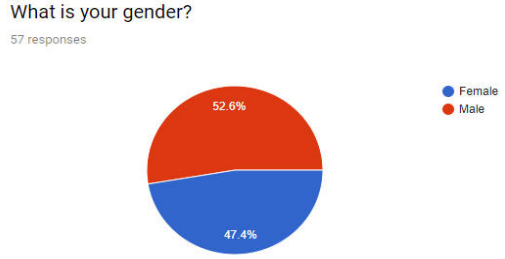
There is a policy drafted by India's policy-making organization, NITI AAYOG, that has proposed that electric cars in India could have green number plates. The policy states to provide several benefits to the electric car owners such as free parking for three years, tolls being waived off across the country. Along with that, the policy also suggests providing privilege of 10percent parking space reserved for electric vehicles at office complexes, residential spaces and shopping mall in the near future. This gives

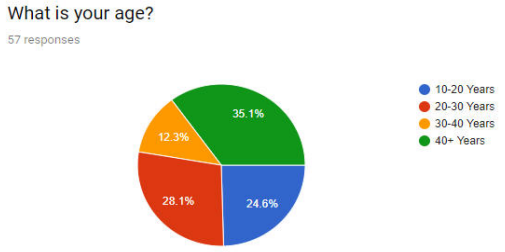
Start-Up companies even more benefits and better acceptance in the country. It also shows that Indian audience has an open mind about electric vehicles

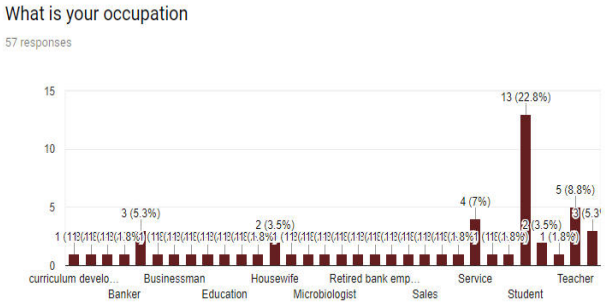
Questionnaire: This questionnaire is the secondary method of data collected for the first time by 60+ individuals. The method used was random sampling for the same. These questions are based on 3 categories. They are – Demographics, Views on EVs, Preference of EV-

Demographic

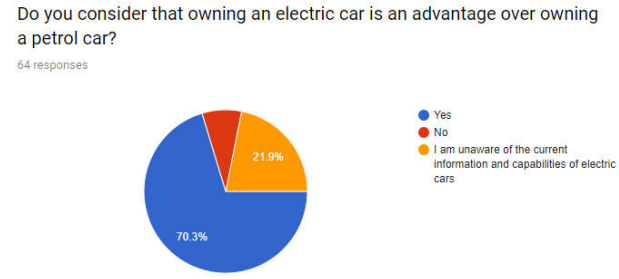


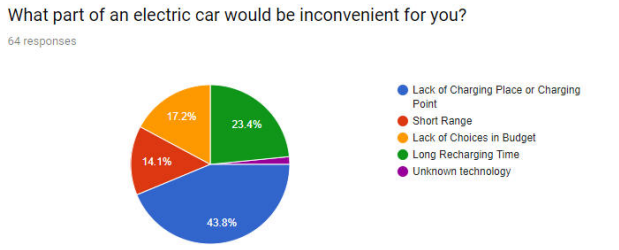


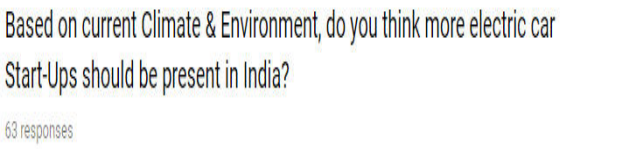


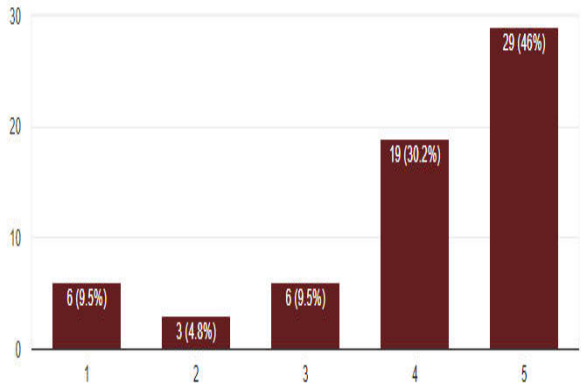


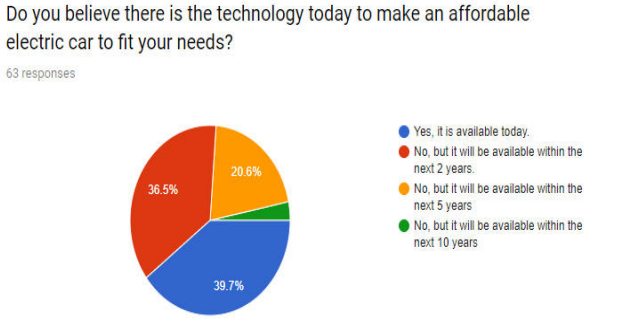
Views on EVs



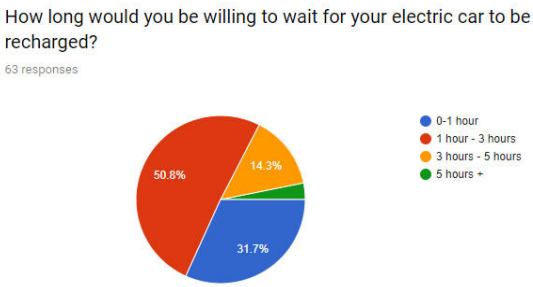


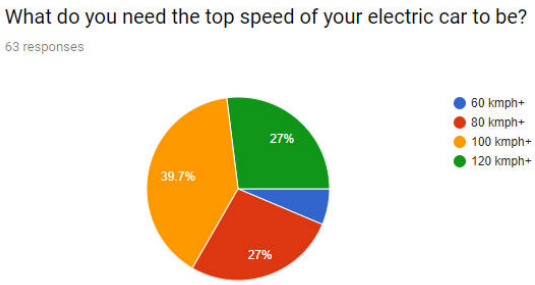


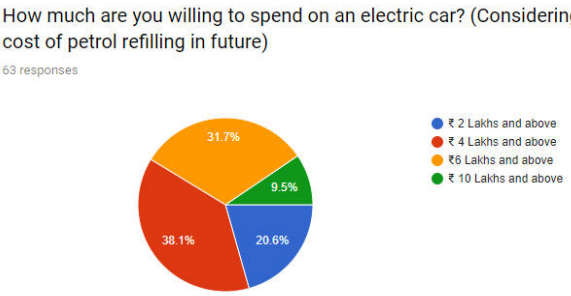


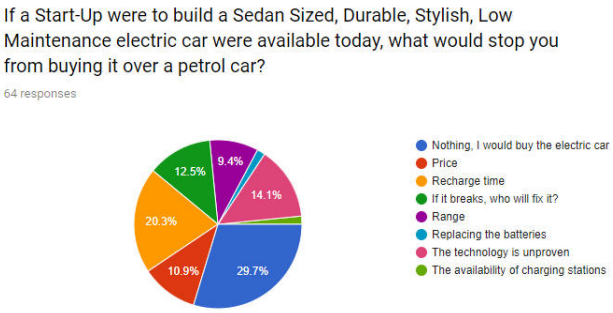


Preference of EV









Methodology: The methods used for Data collection are Primary and Secondary Methods. Primary Data are those which are collected for the first time. The secondary data are those which have already been collected by different source and have already been passed through the statistical process.

Primary Source– A structured questionnaire is prepared and data is collected from respondents. The sampling technique used in this research is Simple Random Sampling Method. The questionnaire contains 12 questions based on demographics, knowledge about electric cars, preferences of EV and it was made on Google Forms.

Secondary Source – Secondary Data means the data already available, which has already been collected and analysed by another source. It includes the published data available in -

- ❖ Books, Magazines, Newspapers
- ❖ Internet

Conclusion: The future of transport is emission-free and the shift towards electric car is inevitable. The following are the factors that will affect the timeline of Electric car sales in India –

- ❖ The masses in India will not buy an electric car just because it is environment friendly. The Indian car buyers at large would still give preference toothier pocket over the need to use sustainable energy for a better future. Thus, an electric car Start-Up company would have to offer better price range than a petrol car in long run. This should include making the public realize the cost of ownership in long term being far less than a petrol car due to the price difference in electricity and petrol.
- ❖ Like every new automotive company in a new market, much of a Start-Up company's sales number would depend on how quickly and how extensively they are able to establish a service network in the country. Building an infrastructure or charging stations for the convenience should be one of the top most priorities of the company.
- ❖ Unlike in most other markets, Start-Up company of Electric car is unlikely to have any serious competition in India as almost nothing is forecast for the near future. BMW, Mercedes and Audi may be fighting hard for space in electric car segments elsewhere but the base itself is missing in India. It is very important factor for Start-Ups to consider.

- ❖ According to the questionnaire following is what the audience is looking forward to – A car which costs around 4-6 Lakhs and charges up in 1-3 hours. It can go up to speeds of 100kmph and can be in production in the next 2 years. They also expect the problem of lack of infrastructure for charging to be thought of and education of EVs in general can be helpful as well.

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