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## Consumer Adoption Challenges In E-Vehicles

*For an end user in the auto sector, many aspects of purchase, driving and maintenance are going to change-when the E vehicle arrives, and that is a challenge*

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There has been enough debate about E-Vehicles and the completely different experience that it is going to bring to the vehicle user. While there is a lot of stakeholder intervention (particularly the Government's) required to make this a sustainable reality, another key question remains as to what may be the challenges that the consumer will have to gear up for.

Some key drivers of this pollution-free E-Vehicles are the fact that-transportation accounts for about 11 percent of India's carbon emissions and is a major source of air pollution. As per WHO 2018 report, 14 of the world's top 20 most-polluted cities are in India. Given the incidence of winter in several parts of the country, this condition only worsens.

This is where the relevance of electric vehicles comes in. A privately done survey by 'IndiaSpend' shows that about 87 percent of Indian drivers and vehicle owners would buy an electric vehicle (EV) if that helped reduce air pollution.

However research shows time and again that adoption of any new product across categories is inversely proportional to the level of habit change that is required ( Srivastava, R K. 2000) i.e. the more a consumer is required to change habit in order to embrace a particular new product, the lesser the chances of its success.. it is in this context that E-Vehicles have a tall challenge.

For an end-user in the auto sector, many aspects of purchase, driving, and maintenance are going to change-when the E-Vehicle arrives...for e.g. there is a chance that you will need an alternate travel solution till your vehicle arrives, and you may be taking possession of your car without ever having test-driven it. These are just some examples....

The purpose of this article is to outline some of those key paradigm shifts. And also talk about how marketers can sensitize consumers beforehand in terms of what habit change is required as well as take some proactive measures that will make the adoption of these 'easier' in the market place.

### **The Product**

E-Vehicles are stretching the manufacturing design of cars in many ways. Since it is an electric charge-dependent vehicle, consumers often suffer from what is called '*range anxiety*' i.e. they do not want to travel out much beyond the nearest chargeable point... This ends up affecting or constraining or rerouting their travel plans...

A critical component of the product-namely the batteries- have issues of disposal. It is still not clear how the used ones are going to be disposed of and how. If environmentally sensitive, this may cause some consumers to reconsider their adoption of E-Vehicles itself.

Additionally, batteries need ventilation..that has a size implication on the battery. But bigger size also means bigger storage space etc..and conversely a smaller size may lead to insufficient ventilation and hence resulting in smokes/flames (remember the Samsung Galaxy Notes - that went into flames) This aspect of the batter design definitely causes health perception issues to the consumer and this in turn has an effect on their purchase decision.

### **The Cost**

The other important part of the E-Vehicles is their cost of manufacture. People spend less than USD 10,000 on a car on an average in India (compare this with the USA /UK of USD 35,000 and China USD 15,000)...Currently, even the hybrid cars in India (Honda Accord, Toyota Camry, Toyota Prius) do not enjoy any kind of Government tax concessions, etc. thus making them very expensive. A long term approach of costing and hence making the task of making the price attractive to consumers remain. Added to this is the cost of the electricity charges that are likely to be incurred while charging these e-vehicles. How much will these be on an ongoing basis, how much consumers construe the value perception in the light of this, remains a question mark? So while the idea of e vehicles is welcome worthy, whether the product pricing will enable mass adoption remains to be seen...

### **Infrastructure**

India has the potential to be one of the largest E-Vehicle markets in the world. But this brings along with its huge infrastructure requirements –that is most manifested in the charging facilities. The availability of charging stations is estimated to be woefully inadequate. There may be long queues at stations leading to discontent and resentment. Needless to say, this will affect consumer order booking and adoption of the vehicles...

The safety aspect of E-Vehicles needs a lot more testing and validation. How would the battery behave during impact is still not conclusively known. With similar incidents reported on Tesla too, manufacturers would do well to study the impact created and enable the consumers to make informed choices...

India, particularly Delhi is known for its power thefts from the grid – as high as close to 40%!! This has repercussions even at charging stations- where there has to be supervision to ensure power is not misused or burgled. Manning these will provide comfort to the end consumers too.

Consumers need to be educated on other aspects like insurance and maintenance of these vehicles, we go forward.

### **Marketing and promotion**

E-Vehicles being disruptive in the category need concept selling... though expos, demos, etc... Showroom drives, personal selling- all together will turn the table in favor of e vehicles. This has multiple implications for the

consumers- the first is that of comprehension... it's going to take a while to internalize all the features and benefits of this category-so the value appreciation of e vehicles will happen in parts. Secondly, the marketing and promo costs of the vehicles- will get shifted to consumers—and they will need to pay for it.in turn affecting the price.

In any technology product, Government intervention is crucial to ensure that the take-off happens from the consumer end. The changeover to CNG fuel at pumping stations (in Delhi in 2000), the shift from unleaded fuels- etc could be expedited as the Government machinery forced its way to implement these. However, unfortunately, the prior examples in India in an alternate car category- namely Reva –do not paint an encouraging picture. Even though Mahindra bought it around 12 yrs ago.it cannot be considered a commercial success.

### **Conclusion**

In spite of the above factors, the mood is very upbeat on E-Vehicles in India. Clean Air is a compelling driver of this new segment, giving the alarming rise in pollution levels across metros in India. It is also speculated that the two-wheeler segment is expected to lead the EV market in India, not cars or buses, according to Kelley Blue Book, a California-based vehicle valuation and auto research firm.

Summing up through **Elon Musk** - *We will not stop till every car on the road is electric...*

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