



A Study on Consumer Perception towards Two-Wheeler Electric Vehicles in Hyderabad

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Abstract

This study investigates the consumer perception of two-wheeler electric vehicles (EVs) in the context of the burgeoning urban landscape of Hyderabad. As the global push for sustainable transportation gains momentum, understanding the factors influencing consumers' attitudes and preferences towards electric two-wheelers becomes imperative. Employing a mixed-methods research design, including surveys and interviews, this study explores the awareness, preferences, and perceived barriers that shape consumer perceptions of electric two-wheelers in the Hyderabad market.

Keywords: Consumer Perception, Two-Wheeler Electric Vehicles, Hyderabad, Sustainable Transportation, Urban Mobility, Electric Mobility, Electric Vehicle Adoption, Consumer Preferences, Environmental Awareness, Green Transportation

1. Introduction

Travelling has come long way from the days of the walking to various forms of modern transportation of the globalized world. The travelling time of the ancient times has been reduced drastically with the innovation of the science inventions in the field of transport are still evolving. There are large numbers of vehicles and brands that has been used in the country for the transportation. Electric vehicles (EVs) first came into existence in the late 19th century, when electricity was among the preferred methods for motor vehicle propulsion, providing a level of comfort and ease of operation that could not be achieved by the gasoline vehicle of the time. The usage of the engine in the vehicles has been largely developed with the help of the research and development wing based on the feedback and intention of the consumers of the market. The classical evolution of the engines has put forward lot of environmental problems in the society. This environmental friendliness has been the need of the hour in the 21st century. The flow of the vehicles at the world level has been constantly and geometrically increasing to that of the population which will erode the nature's ability to absorb the emitted pollutants. The research is looking forward to evaluate the potential degrading effects of the

petrol and diesel engine of the environment. The mode of transport has been changing the preferences towards the electric engine. India's government is pushing for a faster adoption of electric vehicles to deal with the deadly air pollution in its city and curb carbon emissions from fossil fuels, widespread adoption of electric vehicles (EVs) may contribute to the alleviation of problems such as environmental pollution, global warming and oil dependency [1-4]. The innovation of internal combustion engine is one of the best creations of the humankind. The traditional vehicles with ICE provide a good performance but are the major cause for the poor efficiency and environmental pollution across the country. Decreasing fuel consumption and carbon emissions are the most important goal among the present-day plan of government across the globe. Thinking about the future of the country, an efficient and eco-friendly electric two-wheeler vehicle must be designed and manufactured. All existing two Wheelers that are in the Market cause pollution and their fuel cost is also increasing day by day. To compensate the changing fuel cost and curb down the high pollution levels, a good remedy is needed. Basically, a two-wheeler gets its electricity from two sources- a battery and an alternator. The



function of the battery is to store charge, it maintains a stated voltage level and keeps the electrical system working when the engine is switched off. On the other hand, the alternator, produces electricity power supply to numerous electrical devices and charges the battery on the go. In simple terms, perception is understood as the act of seeing what there is to be seen. But what is seen is influenced by the individual, the object and the situation. Any definition of perception should contain these three elements [5-7]. Let us considered some popular definitions:

- The study of perception is concerned with identifying the process through which we interpret and organize sensory information to produce our conscious experience of objects and objects relationship.
- Perception is the process of receiving information about and making sense of the world around us. It involves deciding which information is notice, how to interpret it within the framework of our existing knowledge.
- Perception includes all those process by which an individual receives information about the environment seeing, hearing, feeling, tasting and smelling. The study of these perceptual processes shows that their functioning is affected by three classes of variables.

The three elements of perception are:

- The objects or events being perceived.
- The environment in which perception occur.
- The individual doing the perceiving.

2. Need and Importance of the Study

The need and importance of the study are

- This study helps to know the consumer's perception about electric vehicles. • To know the acceptance rate of two-wheeler electric vehicle in Hyderabad.
- To study the consumers thought about the two-wheeler electric vehicle.
- It helps to determine the factors influencing their preferences.
- To know the demand of the consumers for the two-wheeler electric vehicles.

3. Objectives of the Study

- To study and analyses consumer perception towards two-wheeler electric vehicles in Hyderabad.
- To analyses and rate the performance of two-wheeler electric vehicles in Hyderabad.
- To study the more awareness should be created about two-wheeler electric vehicles because it reduces air pollution.
- To study the factors that influence consumers to purchase two-wheeler electric vehicles.

4. Scope of the Study

The scope of the study includes understanding the consumer's perception on two-wheeler electric vehicles. Analyzing the extent of consumer's perception. It is restricted to analyses the perception of consumers towards two-wheeler electric vehicles, the sample survey has been done in Hyderabad by 90 consumers taken as sample respondents [8-11].

5. Literature Review

Hoyer [2008] the technology behind electric vehicles exists for more than a century. However, due to the availability and the ease of use of combination engines, electric driving was put on hold. Today, different (pushing and pulling) factors recover the interest in electric vehicles. On the pushing side, the limited oil supply and the rising awareness of the environmental foot print of conventional combustion engine vehicles lead the way to cleaner. Electric vehicle on the pulling side, recent developments in battery technology and electric motors make the electric vehicle a valid contender [12-16].

Kurani. et. al. [2009] suggested that to assess the effectiveness, efficiency, and feasibility of electric vehicles awareness program. It is important to work in proper local context and resources [17-19].

Neumann. et. al [2010] environmental prospective, increases in high CO₂- emissions and depletion of fossil reserves, the roll out of electric vehicle can be perceived as a safety measure and future security technology to be used in the upcoming EV is very mature and uptrend leading to high distance coverage with efficiency and comfort [20-22].



6. Findings

The major findings of the study are presented below:

- The study finds that 76% of the sample respondents are male.
- From the study it is found that 40% of respondents are in the age group of 20-30 years.
- The study finds that majority of the respondents in marital status are married that is 56%.
- The study finds that 33% of respondents are graduate.
- From the study it is found that 32% of the sample respondents are students and employee.
- From the study it is found that 42% of respondent's monthly income is below Rs.20,000.
- The study finds that 72% of the sample respondents are using scooter.
- The study finds that majority of the sample respondents are inspired by family 36%.
- From the study it is found that purchase price decision is taken by the 46% of respondents are from Rs.75,000 to Rs.1.25 lakh.
- From the study it is found that the availability of two-wheeler electric vehicle at convenient place, majority of the respondents are 83% as yes.
- The study finds that most of the sample respondents are giving 29% brand preference to Hero.
- The study finds that maximum sample of the respondents are 60 considering eco-friendly factor for buying which is the highest factor.
- The study finds that 39% of respondents are opined for more than 80 kms.
- From the study it is found that 38% of respondents are opined for 60 to 80 kmph.
- From the study it is found that 38% of the sample respondents are recommended more than 50 kms travels on total distance on daily basis.
- From the study it is found that 44% of the respondents are recommended towards satisfied with battery efficiency.
- The study finds that 100% of the sample

respondents are opines that reduction of global warming "yes".

- From the study it is found that 93% of the sample respondents are recommended to buy electric vehicle as "yes".
- The study finds that most preferred factor is model of two-wheeler electric vehicle which is the highest in majority is expresses as 96%.
- The study finds that 43% of the sample respondents are viewed as outstanding.
- From the study it is found that 50% of the sample respondents are viewed as highly satisfied.
- The study finds that 50% of the sample respondents are viewed as excellent.

7. Suggestions

The following are the suggestions for the study [23],

- The two-wheeler electric vehicle should increase its mileage.
- The two-wheeler electric vehicle should be modifying its shape and capacity.
- It must be improved in accuracy of the speed.
- The two-wheeler electric vehicle should have the technology of Bluetooth connection.
- It should be improving its range of travel per charge must be increase.
- It must be focus on its durability.
- Battery saving point should be increase.
- The two-wheeler electric vehicle should be modifying the model by adopting the new technology like battery backup.

8. Limitations of the Study

The following are the limitations of the study [24,25],

- The data depends totally on the view of the respondents which may biased.
- In the study the sample size is limited to 90 respondents.
- Time is the major constraint as the study is confined to a limited period of one year.
- It covers only the geographical areas of Hyderabad.
- The data is collected on convenient basis so it doesn't represent the exact different groups.



Conclusion

According to the data collected from the respondents a study of consumer perception on electric two-wheeled vehicle in Hyderabad through structured questionnaire. It can be concluded that majority of the respondents are male, married, graduate, students and employee are from the age group of 20-30 years, getting monthly income below Rs. 20,000. The innovation of electric vehicles two-wheeler has been largely developed with the help of the research and development [26-29]. The study is concluded that maximum of the respondents is using scooter which is inspired by their family for that purchase price decision taken from Rs. 75,000 to Rs.1.25 lakh and majority of the respondents are agreeing as yes for the availability at convenient place of electric two-wheeler vehicle at Hyderabad. It can be concluded that majority of the respondents are giving more preference to Hero brand, eco-friendly factor and majority opined for range is more than 80 kms, maximum speed is 60 to 80 kmph. From this study it can conclude that maximum of the respondents is recommending reduction of global warming, satisfied with battery efficiency and majority of the most preferred factor is model. The study also states that the usage of petrol/ diesel/ CNG remains down and highly effective towards chargeable batteries. Consumers must be clear on purpose of using electric two-wheeler vehicle and shows highly satisfaction and make it beneficial and convenient to their personal purpose.

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