

1) Project Reference Number: 46S_MBA_035

2) Title of the project: ANALYSIS OF ENVIRONMENTAL CONCERN BY THE OWNERS OF ELECTRICAL VEHICLES DURING THE PURCHASE DECISION IN THE CONTEXT OF AIR POLLUTION

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5) Keywords

Electric Vehicles, Technology, Pollution, Environment, automated vehicles

6) Introduction / background

Electric vehicles have been identified as being a key technology in reducing future emissions and energy consumption in the mobility sector. The growing concern for the environment and the cost of fuel has seen a surge in electric vehicles. Even the Indian government is coming up with lot of encouraging moves to replace non-renewable energy resources with vehicles using electrical energy.

Pollution of the environment is currently a global concern. Toxic emission from internal combustion engines is one of the primary air pollutants. In order to mitigate the effects of fossil

fuel emissions and address environmental concerns (ECs), electric vehicles (EVs) are being promoted aggressively all over the world.

The focus of this article is to find out the factors that have led to the purchasing decision of an electric vehicle and also majorly to see if the environmental concern was a factor influencing the purchase decision.

Various governments are encouraging people to switch to EVs by incentivizing the transition. Previous studies indicate that the high cost of the electric car, non-availability of charging infrastructure, and time and range anxiety act as impediments to consumer adoption. The Government of India has given a call for 'only Electric Vehicles' on Road by 2030. This article is contemporary and examines the different factors that affect a consumer's adoption of an EV. The respondents of the study are existing owners of autorickshaws and two-wheelers in the city of Mangalore.

7) Objectives

To know the reason for the purchase of electric vehicles.

To know the environmental concern of the people during making a purchase decision

To know the factors influencing purchase decision

To predict the future acceptance level of people for electrical vehicles

To know the opinion and suggestions of the customers regarding the operation of electric vehicles

8) Methodology

The respondents of the study are existing owners of autorickshaws and two-wheelers.

A structured questionnaire was developed with a combination of various scales. The questionnaire was developed based on the gap identified in Literature Review.

The survey method was adopted to collect primary data by administering the questionnaire to the owners of Electrical autorickshaws and two-wheelers.

Library resources, both online and offline resources were referred for secondary data.

The sample size was 100 units.

Four hypotheses were framed and tested using statistical tools in Jamovi.

Descriptive statistics, Charts, Correlation, and Regression were applied to arrive at the outcome.

9) Results and Conclusions

The major results can be summarised below

Environmental concern was found to be the major influencer in the purchase decision of the two-wheeler segment.

Economic Benefit was found to be a major influencer on the purchase decision of Autorickshaws.

Social influence is observed to be positively affecting the Attitude

Self is a major contributor to a positive attitude.

10) Scope for future work

Based on the study conducted for this project the major influencers are Environmental Concern, Economic Benefit, Social Influence, and Self Image. It is also important to revisit the timing of battery costs falling to levels that compete with internal combustion engines and how issues surrounding the battery supply chain (e.g., availability of lithium and cobalt) will affect cost. It is necessary to find the source to dispose of the used and damaged battery which is the biggest challenge in the case of Electrical vehicles. In addition, the slow pace at which new mines are opening could slow the rate of battery production and EV penetration. It would also likely require more than a slowdown in the rate of demand growth in the commercial vehicle sector. It would likely require policy drivers that reduced oil use for petrochemical feedstock, air travel, and freight transport. It is also important for the government to give more subsidies on the purchase of EVs for commercial and domestic purchases.