

An Analytical Study on the Usage of Eco-Friendly Cars with Special Emphasis on Sustainable Development in Automobile Industries

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Abstract

In present days sustainable development is one of the key drivers in industrialization strategy. Every industry should emphasize economic growth by simultaneously taking proper care of the environmental issues and social development. Automobile industry is also not an exception to that. It is considered to be of paramount importance for the growth of a nation's GDP. From the point of view of environmental sustainability, popularization and adoption of eco-friendly cars is a need of the time. The present study explores and analyzes people's consciousness about sustainability, perception and attitude towards usage of electric cars, and assesses the impact of demographic variables on users' awareness towards electric cars and their buying decision.

Sustainability achievement index (SAI) has been developed for quantifying the impact of the usage of eco-friendly cars on overall sustainability based on three sustainability indicators, namely, economic, social and environmental sustainability. An attribute preference index (API) for a certain type of car has been developed in the study to assess the user's preference for different types of cars, based on key car attributes. On the basis of API-values the users' preference for an electric car has been compared with a conventional fuel car. The major barriers in adoption of electric cars have been identified in the study, which include lack of awareness, complexity in technology, lack of sufficient charging facilities etc.

The role of government initiatives in wide adoption of electric car has been examined. The impact of government incentives on the purchase willingness level of the users towards electric cars has been evaluated. People's awareness towards government incentives plays a

pivotal role in this context. Government and automobile industry should come together for popularizing eco-friendly cars by taking appropriate measures in order to save environment from harmful effect arising out of combustion of petrol, diesel used in conventional fuel cars.

The statistical techniques used in the study for analyzing the data are mainly exploratory factor analysis (EFA), confirmatory factor analysis (CFA), stepwise regression followed by multiple regression, various parametric and non-parametric tests etc. in order to make a meaningful conclusion.

Keywords: Attribute preference index, conventional fuel car, electric car, sustainability achievement index, sustainable development.