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What Makes Consumers to Decide the Purchasing of Electric Vehicle: An MCDM Approach

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Poonam Manna⁴

Electric Vehicle (EV) has been increasingly recognized as a promising alternative to Conventional Vehicle (CV), as promoting the purchase and usage of EVs has great potential to benefit the environment and energy systems at both global and local levels. In order to increase the adoption of EVs, many empirical studies have been carried out to investigate the influential factors. However, little is known about their relative importance. This study examines six major influential factors and establishes a comparative analysis of the rankings based on the relative significance using multi-criteria decision methods (MCDM). This study utilized Analytic Hierarchy Process (AHP), an Multi-Criteria Decision Making (MCDM) methodology to evaluate and compare six criteria (factors) namely Environmental Concerns, Range & Recharge, Government Support, Safety Concern, Aesthetics, Brand Image & Social Influence that influence consumer's purchasing decision of electric vehicle. Based on the principles of AHP and extant literature, a questionnaire was prepared using 9 point scale from 18 respondents using judgmental sampling in Kolkata to find the relative ranking of these six criteria. This study reveals that while Environmental Concerns and Range & Recharge are the top two significant predictors of EV purchasing decision. Also Government Support emerges as a crucial differentiator next to top two criteria. The findings suggest that for purchasing EV, Safety Concern, Asthetics and Brand Image & Social Influence respectively

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