Analyzing the Indian Electric Vehicle Market: Consumer Preferences and Contribution to Sustainable Development

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Abstract

Electric Vehicles (EVs) have emerged as the primary driver of the automobile sector and play a crucial role in reducing greenhouse gas emissions and combating climate change. This study investigates the factors influencing consumer behavior in India's EV market amidst the automotive sector's transition towards sustainability. Data from 96 responses were collected through a structured survey questionnaire. Participants were segmented into three groups based on EV ownership and future adoption inclination, providing refined perspectives. Employing a two-phase methodology aligned with voice of consumer analysis principles, the study conducted a cluster analysis to categorize respondents based on EV preferences. Secondary needs influencing behavior, such as cost and charging infrastructure, were identified through a literature review. The study computed a weighted average sum of secondary needs to determine preferential values for primary needs, facilitating a nuanced understanding of consumer preferences. The subsequent phase involved validating and further analyzing synthesized preferences using conjoint analysis and regression to ensure robust findings. The findings underscore performance and safety as critical drivers of EV adoption across all segments, alongside increased consumer environmental consciousness.

Key Words

Automobile, Consumer preferences, Electric Vehicles (EVs), Greenhouse gas emissions, Sustainable development goals (SDGs)

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