

Mediating Role of Factors Influencing the Adaptability of Electrical Vehicles Towards Economic and Environmental Sustainability

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Abstract: - Electric Vehicles, also known as EVs, operate using electricity as their main power source rather than relying on gasoline or diesel-like traditional vehicles. These eco-friendly and efficient vehicles replace the internal combustion engine with an electric motor powered by rechargeable batteries. Electric vehicles (EVs) provide numerous benefits. They emit zero tailpipe emissions, reducing harmful pollutants that worsen air pollution and climate change. This makes them a more environmentally friendly choice for transportation. Moreover, EVs operate quietly and offer a more seamless driving experience in comparison to conventional vehicles. This study seeks to investigate the impact of EV adoption as a driving force towards improved economic and environmental sustainability in India.

Keywords: EV vehicle, Sustainability, Perception.

1. Introduction

The growing interest in electric vehicles (EVs) reflects a significant shift in consumer attitudes toward sustainable transportation. As the world grapples with climate change, EVs have emerged as a crucial solution in reducing our carbon footprint and transitioning towards a greener future. Their increasing popularity has also spurred numerous automotive companies to invest heavily in research and development, expanding the market with a variety of models to suit different consumers' needs.

Connecting an electrical power supply to an electric car will charge it, such as a wall outlet or a specialized EV's charging point. The vehicle's forward movement is driven by the electrical energy stored in its battery, which powers the electric motor. The distance an EV can cover on a single charge fluctuates based on the specific model and the capacity of its battery. Various kinds of electric vehicles are on the market, including all-electric vehicles (also called battery electric vehicles or BEVs), which run solely on electricity, and plug-in hybrid electric vehicles (PHEVs), which have both a traditional engine in addition to a motor powered by electricity that can receive a charge from an external supply. The electric car range is increasing and charging infrastructure is growing as EV technology develops. Because of this, electric vehicles are a potential and increasingly well-liked substitute option