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RESEARCH ARTICLE

SUSTAINABILITY OF ELECTRIC VEHICLES WITH REFERENCE OF CLIMATE CHANGE

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ABSTRACT

The automotive industry has become one of the most important world-wide industries, not only at economic level, but also in terms of research and development. Increasingly, there are more technological elements that are being introduced on the vehicles towards the improvement of both passengers and pedestrians' safety. In addition, there is a greater number of vehicles on the roads, which allows for us to move quickly and comfortably. Electric Vehicles (EVs) are gaining momentum due to several factors, including the price reduction as well as the climate and environmental awareness.

INTRODUCTION

EVs first came into existence in the mid-19th century, REVA: India's first successful electric car. REVA, India's first zero polluting Electric Vehicle for city mobility, was commercialized in June 2001. The Reva brand was on sale in India. It's famous for its Reva i models. In 1996, the first electric vehicle was a three-wheeler, invented by Scooter's India Pvt Ltd, and it was named VIKRAM SAFA. Approximately 400 vehicles were made and sold. Finally it was 2001, when RECC launched India's first successful electric car which we all know, REVA. Kevadia-ETO Motors deploys 50 3W EVs in Kevadia; India's first Electric Vehicle City. Electric vehicles are the key technology to decarbonise road transport, a sector that accounts for 16% of global emissions. Recent years have seen exponential growth in the sale of electric vehicles together with improved range, wider model availability and increased performance.

Objective of the study

- EVs are eliminate exhaust emissions, reduce dependence on fossil fuels, improve community health, ensure energy security, and improve employment and training prospects.

- EVs are reliability, affordability, driving range, range prediction, charging station availability, overall trip time and especially convenience of long range travel and comfort under all ambient conditions and traffic situations.

Electric Vehicles (EVs) offer the following advantages:

- Zero emissions:
- Simplicity
- Reliability
- Cost.
- Comfort:
- Efficiency:
- Accessibility:

Statement of the problem

- It requires long charging
- Battery capacity low
- 5 years once we have to alternate batter
- For rare users it is not useful because battery valid 5 years

Review of Literature

- Monica and Mifzala (2019) investigated customer perceptions in Bangalore by learning about their attitudes, feelings, and perceptions. The researchers discovered the level of EV knowledge and the elements that influence client purchase decisions. The majority of buyers are aware of the environmental benefits of electric vehicles. As a result, half of the customers were environmentally sensitive and may like to adopt it. They believe that installing charging stations will aid in the growth of EV sales.
- Nazneen (2018) and co-authors aimed to identify customer perceptions of EV benefits in terms of the environment, car cost, comfort, trust, technology, infrastructure, and social acceptance in their study. Consumers are fully aware of the benefits to the environment. More infrastructure facilities are needed by the government. Governments and manufacturers must invest to shape consumer perceptions and deliver the expected characteristics
- Karwa (2016) in his study comes up with the idea of educating the electric vehicle dealers and providing training. The hurdle to accept electric vehicle is to transfer knowledge from dealer to customer. The dealer sales staff is the main direct contact with the customer. The dealership personnel were able to better comprehend the value proposition of electric vehicles as a result of their regular use, and they were able to engage with potential customers. The service area and the front of the dealership should both have electrical infrastructure installed. Dealership staff should be trained on EVSEs on a regular basis. Multimedia tools and streamlined one-page sales papers that show EV fuel savings, local incentives, and advantages should be included in training.
- Bansal (2021) and colleagues conducted research to learn about Indian consumers' attitudes on electric vehicles and their desire to buy them.

They initially estimated Indian customers' propensity to buy electric vehicles with features, such as long range and quick charging times, as well as consumer attitudes toward environmental friendliness and social norms. Consumers are willing to pay an extra Rs. 748 to Rs. 2548 for quick EV charging, Rs. 524 to Rs. 2998 to add a kilometer to a driving range of 200km, and Rs. 7791 to Rs. 51,845 to save Rs. 70 every 100 kilometers, according to their findings.

CONCLUSION

EVs are vehicles that are either partially or fully powered on electric power. Electric vehicles have low running costs as they have less moving parts for maintaining and also very environmentally friendly as they use little or no fossil fuels (petrol or diesel).

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