Barriers to Sustainable Business Model for Public EV Charging Infrastructure in Developing Nations

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Abstract

The development of charging infrastructure plays a crucial role in facilitating the widespread adoption of electric vehicles (EVs). This research examines the regulatory and policy obstacles that impact the establishment of a sustainable business model for public EV charging infrastructure in developing countries. Governments across the globe are actively pursuing the objective of electrifying their transport systems in response to the pressing concern about climate change. To accomplish these goals, the government agencies are offering monetary incentives to facilitate the establishment and expansion of public EV charging infrastructure. In spite of this, the spread of public electric vehicle charging infrastructure in a number of developing nations is still sluggish and constrained. This study provides an overview of the policies implemented in developing countries in South Asia and emphasises the importance of regulations that address the sustainability and techno-economic feasibility of public electric vehicle charging infrastructure businesses. It also examines the various factors, both direct and indirect, that impact the sustainability of EV charging businesses. The findings suggest that the long-term viability of charging enterprises relies on key factors such as technical standardisation, interoperability, and electric vehicle charging tariffs. The research additionally emphasises the financial and technical barriers that impede the progress of charging infrastructure development. The results of this research will provide valuable insights for governmental entities in formulating cost-effective approaches to achieve their e-mobility goals and support the growth of electric vehicle charging businesses.

Keywords
Electric Vehicle, EV Charging Infrastructure, Sustainable Business, EV Charging Business

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