

Study of Purchase Intention Factors on Private Battery Electric Vehicles in Greater Jakarta Indonesia

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Abstract

Transportation sector has been known as a contributor to the greenhouse gasses emissions and air pollution which caused environment and health problems. Indonesia as an oil net importer is also bothered by the fluctuation of oil price which is influenced by geopolitical situations around the world. Indonesia is in the top tenth of countries who contribute greenhouse gasses to the atmosphere and transportation itself accounts for 14.17% from the total (Crippa et al. 2021). As the busiest city in Indonesia, there are 3.5 million units in Jakarta province only (Indonesia State Police 2022). However, cars from urban areas in and out of Jakarta every morning and afternoon following working hours. The way to reduce greenhouse gasses such as electrification in the transportation sector has become important. Battery electric vehicles are one of the answers to reduce greenhouse gasses, but penetration in the market is not so encouraging. To seek the opportunities to boost penetration of battery electric vehicles, we need to know the priority ranking of factors in the purchase intention of Indonesian people. With the rank of priority on factors which showed from the level of the strength, could help stakeholders focus on the improvement of factors which have the highest level of influence.

Keywords

Battery Electric Vehicle (BEV), purchase intention, electrification, greenhouse gasses, emissions

Biographies

Paulus H. Wijayanto is a postgraduate student at Department of Industrial Engineering, Faculty of Engineering, University of Indonesia since 2021, specializing in System Design and Management. He graduated with a bachelor's degree in industrial engineering from Atma Jaya Yogyakarta University. He has been working in the automotive field since 2005 and has various experiences in production planning, procurement, product and business planning, and aftersales. Currently, he works as Head of Aftersales at a company appointed as the official importer of Jaguar Land Rover in Indonesia.

Dr. Andri D. Setiawan S.T., M.Sc earned his bachelor's degree in aerospace engineering from the Bandung Institute of Technology. He obtained a master's degree in engineering and policy analysis in August 2010, at Delft University of Technology (TU Delft), The Netherlands. In his master's, he analyzed stakeholders' perspectives on carbon capture and storage (CCS) in Indonesia, by combining quantitative and qualitative methods. After graduation, in September 2010 he joined the SEMS (Systems Engineering Modeling and Simulation) Laboratory, Department of Industrial Engineering, University of Indonesia. From January 2011 – June 2012, he conducted research focusing on the assessment of technological options for gas transition pathways in the Netherlands under the Energy Delta Gas Research (EDGaR) program, at the Faculty of Technology, Policy, and Management, TU Delft. His research interests are in the fields of energy, sustainability, and technology policy. His skills and expertise cover system dynamics, continuous and discrete modeling, technology assessment, multi-actor analysis, and Q-methodology.