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Consumer purchase intentions for electric vehicles: Is green more important than price and range?

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Highlights

- This study investigates consumer purchase intentions for electric vehicles.
- Preliminary interviews with 40 end-user subjects are conducted.
- In total, 167 test drives with a plug-in battery electric vehicle are performed.
- A survey with test drive participants and a structural equation modeling are used.
- Results show environmental performance surpasses price value and range confidence.

Abstract

In view of global warming and climate change, a transition from combustion to electric vehicles (EVs) can help to reduce greenhouse gas emissions and improve air quality. However, high acquisition costs and short driving ranges are considered to be main factors which impede the diffusion of EVs. Since electricity needs to be produced from renewable energy sources for EVs to be a true green alternative, the environmental performance of EVs is also presumed to be an important factor. This paper investigates the role of environmental performance compared to price value and range confidence regarding consumer purchase intentions for EVs. To develop our hypothesis, we interview 40 end-user subjects about their beliefs toward EVs. Then, we perform 167 test drives with a plug-in battery EV and conduct a survey with the participants to test the hypothesis. Results of a structural equation modeling support the hypothesis

that the environmental performance of EVs is a stronger predictor of attitude and thus purchase intention than price value and range confidence.

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Keywords

Electric vehicles, ; Environmental performance, ; Price value, ; Range confidence, ; Purchase intention, ; Structural equation modeling, ;

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