

The importance of instrumental, affective and symbolic functions of electric vehicles

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The electric vehicle is potentially a very important technological contribution in the battle against global warming. Most of the current debate surrounding electric vehicles is on functional drawbacks compared to cars with internal combustion engines. We think other aspects might also be important for consumers in deciding to purchase an electric vehicle. This study aims to examine which factors influence preferences for electric vehicles.

According to the theory on the meaning of material possessions (Dittmar, 1992), material products not only have instrumental functions, but also affective and symbolic functions. People not only purchase and use products because of their instrumental function, but also to display their status and identity, and because they expect to derive pleasure from it. Only few studies considered the significance of affective and symbolic motives for environmental behaviour. Most of these studies focused on the *use* of cars. Interestingly, symbolic and affective motives appeared to be more important predictors of car use than instrumental motives (Steg, 2005).

Little is known about factors influencing the *purchase* of cars, while the purchase of a particular type of car, such as alternative fuel (e.g., electric) vehicles, has long lasting effects on the total environmental impact of one's travel behaviour. We hypothesize that affective and symbolic motives are important predictors of the purchase of alternative fuel vehicles, and more particularly electric vehicles, next to instrumental motives.

Studies revealed that the significance of symbolic and affective motives is better expressed when the aim of the research task is not too apparent, as respondents are not

likely to admit the importance of symbolic and affective factors for their choices (Steg, Vlek & Slotegraaf, 2001). Therefore, we used direct and indirect methods to assess the significance of different motives for the purchase of electric vehicles.

We conducted a questionnaire study. In the direct method, respondents rated the importance of different instrumental, symbolic, and affective attributes of cars. We used two indirect methods to examine the significance of different attributes of cars. Respondents indicated to what extent they thought electric vehicles have different attributes (the same attributes as included in the first task). Next, they rated the overall attractiveness and purchase intentions of electric vehicles. We assessed the significance of different attributes for overall preference via regression analysis. In the other indirect approach, respondents rated descriptions of cars that systematically differed on specific instrumental, symbolic, and affective attributes. Via conjoint analyses, we assessed the importance of the different attributes for overall preferences.

We will present the results of the study and discuss implications for the adoption of electric vehicles.

References

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