

# Electric vehicles and appropriate business models from a user perspective

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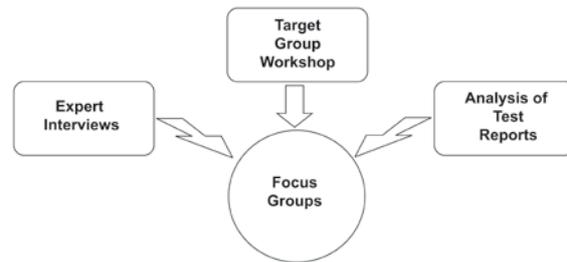
## Background

Currently electric vehicles are intensively discussed as a sustainable and energy-efficient means of transport. They have the potential to realize advantages compared to traditional vehicles with regard to environmental impact and noise. However, so far they are not comparable to conventional vehicles with regard to maximum range, purchase price and refuelling duration as well as infrastructure. On the one hand, further technological breakthroughs are necessary. On the other hand, knowledge about consumer acceptance is crucial to direct necessary development of technology and to enable effective promotion of electric vehicles. Due to a low availability of electric vehicles so far, scientific findings and practical experience on consumer needs are rare. The empirical studies reported here therefore aim – by combining multiple methods based on general theories on technology acceptance and diffusion of innovation - to systematically explore factors influencing acceptance of electric vehicles by private consumers. In this context, promising target groups as well as attractive vehicle and mobility concepts are also examined.

## Methodology

Figure 1 provides an overview over the multiple methods applied. First, interviews with eight experts for individual mobility behaviour and acceptance of innovations were conducted in order to identify the most relevant aspects for user acceptance of electric vehicles. An expert workshop was organised to identify promising target groups for electric mobility based on socio-economic and attitudinal variables. Furthermore experiences and test reports on using electric vehicles, which are published in the internet, were systematically collected and analysed. Based on these studies, four

focus groups, in which attractive vehicle concepts and business models were developed and discussed, were conducted with the previously identified target groups.



*Fig. 1: Methods applied to analyse user requirements*

## Results

Our presentation includes an overview on the findings from the various methods with a more detailed focus on the focus group results. A positive perception among potential users of electric mobility became apparent by the various methods, though potential users as well as the experts showed a high sensitivity for the disadvantages of electric vehicles as well. Characteristics of business models and vehicle concepts which reduce costs and ensure flexibility as well as simple usage are regarded as prerequisite for an adoption of electric mobility. The findings will be discussed in relation to the theoretical background of technology acceptance and with regard to innovations with a potential for more sustainability in general. Implications for the promotion of electric mobility will be drawn.

## Acknowledgements

We gratefully acknowledge funding from the German Federal Ministry of Education and Research (BMBF). Special thanks go to the interviewed experts and the participants of the expert workshop and the focus groups.