Technische Universität München
School of Management

Master Thesis

Charging Infrastructure for Electric Vehicles: Analysis of User Behaviour in Germany

Background

As the number of electric vehicles will increase in the coming years, the public charging infrastructure has to be improved. Charging points are expensive. To avoid unprofitable investments and install charging points demand driven, knowledge about user behaviour is essential. However, a systematic analysis of user behaviour is not available for Germany.

Research Questions

Stadtwerke München (SWM) is member of the roaming network *ladenetz* (www.ladenetz.de) for charging infrastructure, which enables customers to use all charging points of this network – from the Netherlands to Austria. The thesis is based on a anonymized dataset of 600,000 charging activities from *ladenetz* in Germany.

The thesis analyses the dataset in the following way.

- Analyze location, number and duration of charging activities.

- Identification of customer segments (cluster analysis).

- Calculation of probability distributions for customer behavior.

- Identification of trends, e.g. due to an increasing number of charging points in the roaming network within the last years.

- Comparison of results with other public available datasets and with results in the literature.

The thesis is co-supervised by the *Stadtwerke München (SWM)*. The selection of a suitable candidate and the detailed specification of the project will take place in close cooperation with the SWM.

Literatur

1. Helmus, J. R.; et al.: Assessment of public charging infrastructure push and pull rollout strategies: The case of the Netherlands. In: Energy Policy 121, 2018, pp. 35-47.

Qualified applicants are invited to send their electronic application to cem@wi.tum.de.