PhD Thesis Project

Acceptability and willingness-to-pay for AV: exploiting immersive data collection techniques to improve accuracy of results

Problem description

Autonomous or self-driving vehicles (AV) are a key area in travel behaviour research. Due to the widespread lack of trust with this new technology, a large amount of academic papers has been produced in the past 10 years with the aim of understanding public acceptability and willingness to pay to purchase for such vehicles. This research has mainly taken the form of questionnaire surveys or stated preference surveys, where people are asked about whether they would be willing or likely to purchase Avs. Such surveys generally collect a wide range of socio-demographic and attitudinal variables to understand variability in the population. These studies have found highly variable results. This project aims to address the challenge of reducing the hypothetical bias characterising these studies to be able to derive more accurate and reliable policy measures, such as willingness to pay and acceptability of AVs with certain characteristics. This will be achieved by (1) focusing on specific aspects of automation, so that potential respondents are not asked to imagine an entirely new mode and (2) using driving simulator scenarios so that respondents can practically experience such automation features. Existing research has shown that immersive environments can produce more reliable behavioural responses with respect to non-immersive surveys, an element that is key for this research. In particular, the project will provide an opportunity to investigate the reliability of different types of data collection methods when it comes to different features of automation.

Assignment

- Comprehensive review of the literature on acceptability and WTP for AV and on the implications of immersive Vs traditional data collection for hypothetical bias
- Development of simulator scenarios and different kinds of surveys
- Data collection
- Data analysis via econometric models to obtain policy-relevant measures

Research group

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