

A STUDY ON CONSUMER PREFERENCE OF AUTONOMOUS VEHICLES' CONNECTIVITY: THE CASE OF SOUTH KOREA

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Abstract:

Interaction with other vehicles and roadside facilities is essential for driving with Connected and Autonomous Vehicles (CAVs). However, despite this importance, no attempt has been made to look at the relationship between connectivity of CAVs and consumer acceptance. We conducted a conjoint survey with 602 South Koreans and derived the utility function of potential consumers for CAVs by using a discrete choice model to analyze their preference for the technological attributes of CAVs. In the experimental design, we considered six core attributes of CAVs: ICT (Information and Communication Technology) infrastructure, road occupancy of CAVs, sharing roads with non-autonomous vehicles, autonomous driving technology level, fuel efficiency, and price. The empirical results showed that consumers have high heterogeneity for CAV attributes. By comparing the relative importance of these six attributes, we find that ICT infrastructures installed on whole roads are the most important attributes followed by road occupancy of CAVs. These results can be used to develop a technology development strategy for CAV and national policies (infrastructure, regulation, etc.).

Keywords: Connected and autonomous vehicles; Conjoint analysis; Discrete choice model; Technology adoption