Emotional Responses to Robotaxis – The Role of Environmental Complexity

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Abstract:

Autonomous vehicles, particularly self-driving taxis (robotaxis), represent a technological innovation with the potential to transform urban transportation systems. While pilot projects have been successfully launched in the U.S., China, and Europe, consumer acceptance remains a major challenge, with (potential) users often expressing distrust. Using Mehrabian and Russell's (1974) environmental psychology model, three experiments examine the impact of environmental complexity–operationalized as visual traffic density (Study 1), combined visual and auditory traffic density (Study 2), and traffic intensity in form of vehicle speed (Study 3)–on trust through perceived ease of use and emotions. Personal innovativeness moderates these effects. This research highlights the importance of understanding and addressing environmental and emotional factors to foster public trust, offering actionable insights for marketers and policymakers to enhance user acceptance.

Keywords: Emotions, Environmental psychology, Robotaxi
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