

Workshop: “Satisfaction with travel and acceptance of emerging technology”

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Workshop Short Description

The advent of new technology, from simple smartphones to electric vehicles, autonomous and connected vehicles, smart cities, and the Internet of Things, is transforming beyond recognition the way we interact with each other and with the environment, and the way we move. In this complex system, understanding what drives the acceptance of these emerging technologies represents one of the key research challenges of our time. Acceptance depends on a range of dimensions including instrumental, economic, psychological, and social factors. Furthermore, even beyond stable markets, the acquisition of knowledge, experience, and satisfaction with the product, and how these evolve, play a pivotal role in propelling acceptance. This workshop aims to critically discuss the state of the art and the latest developments in measuring satisfaction with travel and the acceptance of emerging technologies. Discussions will delve into various methodological innovations in various areas such as Stated Choice Experiments, Multicriteria Analysis, and Structural Equation Modeling, exploring their effectiveness in capturing user preferences and behaviors across different scenarios including urban parking, commuting under congestion pricing, and the introduction of autonomous vehicles. By drawing on the extensive experience of the participants, the workshop will identify best practices and outline strategies for moving forward effectively. The focus will be on evaluating the ability of the available instruments to correctly capture and reflect the multifaceted nature of satisfaction and acceptance of emerging transport technologies, assessing their precision and potential impacts on urban mobility.

The workshop will explore diverse aspects of travel satisfaction and technology acceptance. This includes assessing the effectiveness and validity of the Satisfaction with Travel Scale (STS) in comparison to existing customer satisfaction scales, to ensure robust measurement of user experience. Additionally, the workshop will explore innovative methods for measuring travel time misperception using mobile app-based approaches, recognizing the importance of accurate user perception in travel satisfaction. The workshop will also feature the Transportation Heartbeat of America (“THA”) Survey, a large-scale effort tracking changes in attitudes, lifestyles, and travel behaviors across the United States.

Further discussions will include examining public opinion and the effects of social conformity on the adoption of electric and autonomous vehicles, and how social factors influence technology adoption and its relation to mobility and residential preferences, as well as life course changes. The workshop will also address the challenges of integrating new technologies into urban settings, such as estimating user acceptance and the modification of mobility behavior when introducing electricity in urban areas. It will also cover understanding traveler behavior under congestion pricing, employing survey-based decision tracking to analyze responses to different pricing schemes. Finally, the workshop will investigate how initial experiences with next-generation mobility options influence people's stated acceptance, using an integrated survey approach to capture the evolution of acceptance.

The research questions addressed in this workshop broadly explore:

- Factors influencing the adoption and acceptance of emerging transportation technologies, including electric vehicles, autonomous vehicles, and shared mobility

services. This includes understanding public attitudes, preferences, and behaviors, as well as the role of social influence and initial experiences.

- Methods for measuring and evaluating travel satisfaction, including the effectiveness and validity of different scales and the impact of factors like travel time perception and congestion pricing.
- The interplay between transportation choices and broader societal trends, such as residential preferences, lifestyle changes, and life events.
- The impact of transportation policies and interventions, such as congestion pricing and the development of e-mobility infrastructure, on travel behavior and urban environments.

Speaker Presentations

- 16; Sadjad Bazarnovi and Abolfazl Mohammadian; Public Opinion Survey on EV and AV Adoption, Mobility and Residential Preferences, and Life Course Changes
- 36; Richa Maheshwari and Mario Cools; Examining the effectiveness and validity of the Satisfaction with Travel Scale (STS) and existing customer satisfaction scales.
- 72; Dale Robbennolt, Anna Beliveau, Irfan Batur, Ram M. Pendyala, Patricia L. Mokhtarian, Atiyya Shaw, Steven E. Polzin, Alison Conway, Cynthia Chen and Chandra R. Bhat; Transportation Heartbeat of America ("THA") Survey
- 163; Pham Van Son and Akimasa Fujiwara; "How Initial Experiences Influence People's Stated Acceptance of Next-Generation Mobility: An Integrated Survey Approach"

Poster Presentations

- 115; Hao Yin and Elisabetta Cherchi; Measuring the effects of social conformity in the choice of automated taxis
- 126; Dirk Wittowsky, Johannes Aertker, Eva Gößwein and Magnus Liebherr; How to Get Electricity in Urban Areas - A Mixed Methods Approach to Estimating User Acceptance and Modification of Mobility Behavior
- 131; Roxani Gkavra, Winnie Daamen, Florian Schneider and Tim Van Oijen; Measurement of travel time misperception- a mobile app based approach
- 133; Mohammad Amin Ashena, Adam Weiss and Lina Kattan; "Understanding Traveler Behavior Under Congestion Pricing: A Survey-Based Decision Tracking Approach"