Participating in environmental loyalty program with a real-time multimodal travel app: User needs, environmental and privacy motivators - DTU Orbit (14/08/2019)

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The increasing complexity and demand of transport services strains transportation systems especially in urban areas with limited possibilities for building new infrastructure. The solution to this challenge requires changes of travel behavior. One of the proposed means to induce such change is multimodal travel apps. However, understanding the motivators underlying individuals’ travel intentions is essential to design and evaluate their effectiveness. This paper pinpoints and analyses the drivers and barriers that influence individual travel decisions when using such apps. The analytical framework relies on Alderfer's ERG model of human needs that relate the individual's intentions to three domains, namely (1) Existence, (2) Relatedness and (3) Growth needs. Furthermore, environmental attitude, information privacy concerns and perceived difficulties when using the system are incorporated as to better explain user-sided heterogeneity. The case-study focuses on a new travel information system in Copenhagen (Denmark), which is not yet operational, through a technology-use preference survey among 828 travelers. Structural equation models revealed that the motivation for choices are specific to individual users and depend on wide-ranging factors that go beyond traditional economic and socio-demographic methods. The study revealed (1) different intentions among individuals according to the perceived value of the new information system, (2) a relation between different environmental attitude constructs and users' needs, (3) a stronger appeal to use the system for individuals with higher needs of developing social self-concept and eco-travel self-efficacy as well as with lower perceived privacy risk and perceived difficulties, (4) that both functional and psychological factors affect adoption intention.

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