


## Examining Customers' Critical Acceptance Factors toward Ridepooling Services

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### Abstract

Ridepooling is a new mobility service mainly for people in cities and urban areas. By matching the routes of customers with similar start and end points while driving in an optimally pooled manner, meaningful reductions in road traffic and related emissions can be achieved. Such services must meet customers' demands appropriately to achieve sustainable customer acceptance. Service providers face diverse customer expectations and prejudices that differ from those toward existing transportation modes. Today, most ridepooling trips are conducted with only one customer, confirming impressions of non-optimal operation. Using a survey-based approach, possible relevant constructs for the acceptance of and intention to use ridepooling services are analyzed. Testing constructs from the Unified Theory of Acceptance and Use of Technology 2 and environmental awareness, partial least squares analysis was performed with the software SmartPLS to investigate a dataset of 224 respondents. Results suggest that attitude toward use, perceived usefulness, and performance expectancy have an influence on the behavioral intention to use ridepooling services. In contrast, environmental awareness, price value, and effort expectancy do not have such an influence. The study expands the literature about customer acceptance of ridepooling service as well as new mobility services in general. Further, the paper provides research implications and recommendations for the development and implementation of the ridepooling concept for service providers.

Alongside the overall growth of the world's population, the share of people living in urban areas has been increasing rapidly and is expected to reach 66% by 2050 (1). People's needs for individual transport have led to an increased demand for mobility, especially in cities. The term urban mobility describes passenger movement within the city environment. Besides private vehicle ownership and public transport, people can choose mobility-as-a-service, for example, taxi, carsharing, or bikesharing to carry out their daily activities. Mobility-as-a-service can be defined as a linkage between public and private transport operators and predicts the integration of tools, for example, mobile applications, and services a traveler needs to conduct a trip (2). Emerging developments such as digitalization, high-speed computing, location data, accurate sensors, wireless connectivity, social media expansion, and new pricing schemes have enabled so-called new mobility services, a subcategory of mobility-as-a-service (3). The following new mobility services are relevant in this context. Carsharing involves users paying money based on the required time or distance when renting a car. Ridesharing (or carpooling) involves a private

vehicle being shared by individuals traveling together from similar starting points to similar destinations, organized by an intermediary company or an informal system of users. Ridehailing involves a passenger determining the trip's start and end point and demanding a transport service offered by a professional or part-time driver. Ridepooling (or shared ridehailing or ridesplitting) involves users hailing a shuttle to designated pick-up points near their location such that passengers with similar routes are matched and transported together in one vehicle (4). This study focuses on ridepooling services from designated pick-up points near customers' locations, ordered through a mobile application.

As urban areas face a multitude of traffic-related challenges such as high emissions, poor air quality, large traffic volumes, and constant congestion, new mobility services can contribute to a reduction in road traffic and

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