Analyzing Purchase Decisions Using Dynamic Location Data

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Marketers' efforts to monetize customers' location data have been largely limited to simple protocols like geo-fencing – customizing the information presented to the customers solely based on their current location. In this paper, we present a novel approach to segmenting consumers based on their mobility patterns and demonstrate how extracting features from urban mobility data may enable marketers to gauge how consumers incorporate locational factors in their decisions. We use six months of individual mobility data from major markets in the U.S. to calculate consumers' partial daily trajectories, and to analyze daily fueling choices decisions. The results show that accounting for location trajectories significantly improves the accuracy of models relying only on historic store choices, brand information, and current price. Furthermore, they reveal customer heterogeneity in both price- and distance-sensitivity. Our findings contribute to both scholars and practitioners in understanding how to improve the monetization of customer mobility data.