Abstract

An on-demand service platform connects waiting-time sensitive customers with independent service providers (agents). This paper examines how two defining features of an on-demand service platform—customer sensitivity to delay and agent independence—impact the platform’s optimal per-service price and wage. Delay sensitivity reduces expected utility for customers and agents, which suggests that the platform respond by decreasing the price (to encourage participation of customers) and increasing the wage (to encourage participation of agents). These intuitive price and wage prescriptions are valid in a benchmark setting without uncertainty in the customers' valuation or the agents' opportunity costs. However, uncertainty in either dimension can reverse the prescriptions: Delay sensitivity increases the optimal price when customer valuation uncertainty is moderate. Delay sensitivity decreases the optimal wage when agent opportunity cost uncertainty is high and expected opportunity cost is moderate. Under agent opportunity cost uncertainty, agent independence decreases the price. Under customer valuation uncertainty, agent independence increases the price if and only if valuation uncertainty is sufficiently high.