

Industrial and Systems Engineering Seminar

On-Demand Service Platforms

Wednesday, March 23

3:30 PM – Graduate Seminar and Refreshments

Mechanical Engineering Room 102



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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--congestion-driven delay disutility and agent independence--impact the platform's optimal per-service price and wage. Congestion 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: Congestion increases the optimal price when customer valuation uncertainty is moderate. Congestion 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.

BIO: Terry Taylor is the Milton W. Terrill Associate Professor at U.C. Berkeley's Haas School of Business. Prior to his position at Berkeley, Terry was a professor at Columbia University's Graduate School of Business and a consultant for McKinsey & Company. His current research focuses on social responsibility in operations. He is an Associate Editor for *Management Science*, *Manufacturing and Service Operations Management* and *Operations Research*, and a Departmental Editor for *Production and Operations Management*.