

Title:

Recent Research and Teaching in Smart City Operations Management

Abstract:

Over 50% of the world's population lives in cities. The ever-growing urban population entails economic opportunities as well as major sustainability challenges. Enabled by latest technological advances, the Smart City approach has emerged as a potential strategy to overcome these grand challenges and unlock new business opportunities. In this talk, I shall first discuss my ongoing research in Smart City Operations Management, focusing on a working paper on peer-to-peer (P2P) crowdshipping in urban omnichannel retail. Toward the end of the talk, I also plan to share about the development of an MBA course on Smart City Analytics at Oxford.

Crowdshipping, a novel practice built upon the sharing economy, has been adopted by a number of retailers to tackle the notorious last-mile delivery problem in urban omnichannel retail. In this work, we study the potential of P2P crowdshipping, i.e., enlisting in-store shoppers to deliver online orders in their vicinity, and its impact on the marketing-operations interface for an omnichannel retailer. Specifically, P2P crowdshipping could potentially help the retailer improve delivery efficiency, and gain an additional lever for price discrimination. When these two effects interact, we find that the favorability of crowdshipping heavily depends on product characteristics, and how shopper-deliverers are reimbursed. For necessity goods, a cost-based reimbursement scheme could lead to a win-win outcome in both the retailer's profit and consumer surplus; for higher-end products, reimbursing deliverers a premium on top of their delivery costs would be favorable.

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