

The Hong Kong Polytechnic University
Department of Logistics and Maritime Studies
Research Seminar

Referral, Learning and Inventory Decisions in Social Networks

by

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Time: 10:30am-11:30am
Venue: M714, Li Ka Shing Tower
The Hong Kong Polytechnic University

(Conducted in English)

Abstract:

In the past decade, with the proliferation of digital social networks and social media such as Facebook, Twitter and Instagram, we have observed that businesses have been increasingly using referral programs to increase their market exposures and sales. We examine the impact of social learning in a referral program when customers' preferences are positively correlated in a social network. We characterize customers' purchasing strategies based on their information types, and derive the demand distributions when customers are involved in social learning in a referral program. While customers' lack of knowledge on their own preferences will introduce bias to the demand expectation, social learning reduces the bias at the expense of increasing demand variance. We investigate the firm's inventory decision when customers are involved in social learning in a referral program. We find that the stock-out of one product would suppress the demand of the other product when customers are involved in social learning. Allowing customers to make multiple referrals would reduce the negative externality of stock-out but meanwhile significantly increases the demand variance. The optimal design of referral program generates market exposure with a moderate increase of inventory cost.

Bio:

Guangwen Kong is an Assistant Professor at the Department of Industrial & Systems Engineering, the University of Minnesota. She holds a Ph.D. degree in Operations Management from the Marshall School of Business, University of Southern California. Her interests are strategic interactions and behavioral decision making in the area of Supply Chain Management, Service Operations, and Business Model Innovation such as Sharing Economy and On-demand Platforms. She has been working on projects in peer to peer product sharing, online promotion, on-demand service platform, service contracts design and supply chain contracts. She has published papers in *Management Science* and *Production and Operations Management*, served as Editorial Review Board member of *Production and Operations Management*, and reviewer of *Operations Research*, *European Journal of Operational Research*, *Manufacturing & Service Operations Management*, *Journal of Management Studies*, *Production and Operations Management* and *Naval Research Logistics*. Her work has received several awards, including 2018 INFORMS Service Science Cluster Best Paper Award (Finalist), 2018 POMS College of Behavior in Operations Management Junior Scholar Award (Finalist), 2018 The NET Institute Summer Grant Award, 2017 CSAMSE Annual Conferences Best Paper Award (Honorable mentions), 2011 POMS College of Supply Chain Best Student Paper Award (Finalist), and 2016 POMS-HK Best Student Paper Award (Finalist). She is ranked as the top 10% of Authors on SSRN by all-time downloads.

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All are welcome!