We use data on the retail business of TMall to consider revenue management in the presence of reference prices. We consider questions as: Does reference price improves demand forecasts? And, does considering word of mouth (WOM) in the formation of reference price forecasts benefit revenue management? Revenue management considers the impact of prices on current and future sales via forecasts. The related literature uses reference price to study this impact empirically and theoretically, mostly focusing on sales of specific items to repeat customers. It ignores the effect of WOM on reference price. We (I) develop scalable, data driven methodologies to compare the effectiveness of different forecasts, (II) demonstrate these methodologies, (III) introduce models capturing the effect of WOM on reference price, and (IV) formulate and study (theoretically and numerically) the revenue management problem when forecasts are reference price-dependent. We provide a foundation for systematic implementation of revenue management in the presence of reference price effects. We (I) formulate the impact of WOM on reference price and investigate the effectiveness of different forecasts; and (II) demonstrate that revenue management could benefit from WOM-dependent reference price models. The improved accuracy and revenue management performance of our forecasting models with reference price affected by WOM support their usage in practice.

BIO:
Opher Baron is a Professor of Operations Management and the area coordinator for Operations Management and Statistics at the Rotman School of Management, the University of Toronto. He has a PhD in Operations Management from the Sloan school at the Massachusetts Institute of Technology along with an MBA and BSc in Industrial Engineering and Management from the Technion. On the teaching front, Opher is especially proud of the "Analytics for decision-making " MBA elective course he introduced and teach at Rotman. His research interest include queueing, applied probability, facility location, service operations (such as healthcare and call centers), inventory planning, and revenue management. Opher's published at leading journals such as Operations Research, and Manufacturing & Service Operations Management, and he has won several research awards and grants, including the 1000 Talent Plan Scholar of the Shanghai Municipal Government, 2016. Opher is active in the operations research and operations management community. He has chaired several conferences, clusters, and sessions and currently serves on the editorial board of the several journals including the Manufacturing & Service Operations Management and Service Science.