The Hong Kong University of Science and Technology

Dept of Information Systems, Business Statistics and Operations Management

Dept of Industrial Engineering & Decision Analytics

Joint Seminar Announcement

Sequential and Simultaneous Choice with Search Cost: Modeling, Optimization and Estimation

by

Prof. Ruxian Wang

Professor

Johns Hopkins University

Date : **17 April 2023 (Monday)**

Time : **10:30 – 11:45 AM**

Venue : **Case Room G001, LSK Business Building**

Abstract: We propose a hybrid model to study sequential and simultaneous choice behavior in the presence of search cost. After examining all products in an assortment, a rational consumer decides whether to continue searching. Switching from one assortment to another often incurs a search cost that is often related to transportation expense or time. We combine the classic sequential search model with the famous simultaneous discrete choice model, and develop a unified framework to investigate the impact of search cost on the sequential and simultaneous choice behavior. The proposed framework involves a deterministic utility in the discrete choice model under the random utility maximization theory. We consider the associated operations problems including price optimization and competition, assortment planning, search cost management and model estimation.

Related papers: (1) What Is the Impact of Non-Randomness on Random Choice Models? (link), (2) Hybrid Model for Sequential and Simultaneous Choice with Search Cost (link)

Bio: Prof. Ruxian Wang is a Professor with tenure at Johns Hopkins University, Carey Business School. He received Ph.D. from Columbia University. Before returning to academia, he worked in Hewlett-Packard Company for several years as a research scientist. His research and teaching interests include operations management, revenue management, pricing, discrete choice models, data-driven decision making. His articles appeared in the flagship journals in his field, such as *Management Science, Manufacturing & Service Operations Management, Operations Research, Production and Operations Management*.

All interested are welcome!

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