# The Hong Kong University of Science and Technology

Dept of Information Systems, Business Statistics and Operations Management

OM Seminar

## Who to Offer, and When: Redesigning Feeding America's Real-Time Donation System


**by**

**Mr. Soonbong LEE**

**Yale School of Management**


| | | |
|---|---|---|
| **Date** | : | **9 January 2026 (Friday)** |
| **Time** | : | **10:30am – 11:45am** |
| **Venue** | : | **Case Room 1001, LSK Business Building** |


**Abstract:**

In collaboration with Feeding America, we aim to redesign Real-Time—a tool on its food sourcing and rescue platform, MealConnect—that facilitates the connection of ad-hoc, time-sensitive food donations to local agencies (e.g., meal programs) through an offer process. In making offer decisions, Real-Time and similar food rescue platforms face a challenge in balancing efficiency and equity due to heterogeneity in response rates across agencies: offering to many agencies upfront improves efficiency (the likelihood of acceptance) but may disadvantage those with lower response rates. On top of this, the ad hoc nature of donations introduces future uncertainty, adding to the challenge of achieving the dual goals of efficiency and equity. Motivated by these challenges, we study a sequential offer scheduling problem in which donations arrive sequentially and are connected through a multi-stage offer process. The goal is to maximize an objective that balances efficiency and equity, promoting allocations proportional to agencies' needs. We first develop a dynamic programming (DP)-based algorithm that optimally solves the one-donation problem and yields an intuitive nested offer schedule. Moving beyond one donation and motivated by the ad hoc nature of donations, we take a robust approach to designing sequential offer policies that do not rely on any knowledge about future donations. We design a penalty-based offer policy that solves a modified one-donation DP by properly penalizing current allocation to hedge against future uncertainty. We establish strong (and optimal in asymptotic regimes) performance guarantees for our policy. We further demonstrate the importance of hedging: a greedy policy that solves each one-donation DP without accounting for future arrivals fails to achieve a comparable guarantee. Numerical results on real data from Feeding America's MealConnect platform demonstrate that our proposed approach significantly improves both efficiency and equity relative to current practice and several benchmarks.


**Bio**:

Soonbong Lee is a fifth-year Ph.D. student in Operations at the Yale School of Management. His research interest is in platform and policy design for social good. In particular, he designs data-driven solutions and

analytical methods for resource allocation and matching problems in nonprofit platforms and public sectors. His work has examined applications in online food rescue platforms, refugee resettlement, and diversity policies in labor markets. His research is grounded in close collaborations with partner organizations, including Feeding America's MealConnect and a major U.S. refugee resettlement agency. His work has been recognized by several awards, including the MSOM Best Student Paper Prize and the Auctions and Market Design Rothkopf Prize.

All interested are welcome!

Enquiries: Dept of ISOM