



Lee Kong Chian  
School of  
**Business**

## Operations Management Winter Camp 2022

Date: Friday, 16 December 2022

Venue: Singapore Management University  
Lee Kong Chian School of Business  
Level 3, Seminar Room (SR) 3.2

Programme	
10.00am - 10.30am	<p><b>Registration</b> (outside SR 3.2)</p> <p><b>Morning Refreshment</b> @ Catering area 3A, near SR 3.10, Level 3</p>
10.30am - 10.45am	<p><b>Opening Speech</b></p>
10.45am - 11.45am	<p><b>Paper 1</b></p> <p>Presenter: <b>Helen Yangfang ZHOU, Singapore Management University</b></p> <p>Discussant: <b>Dorothee HONHON, University of Texas at Dallas</b></p> <p>Title: <b>Cosmetic Standard and Its Impact on Food Loss</b></p> <p><u>Abstract:</u> A significant portion of the food waste in agricultural supply chains occurs at the farm level, and has been linked to high cosmetic standards adopted by retailers regarding the size, color, and shape of the produce. We examine the economic incentives for retailers to adopt such high standards and their impact on food loss. We build a sequential game between a retailer and a farmer, where the retailer signs a contract with the farmer specifying both the wholesale price and cosmetic quality standard. Setting a high standard allows the retailer to sell the products at a premium but reduces the proportion of produce that satisfies this standard. We find that compared to a low cosmetic standard, a high standard does not always increase food loss and could lower food loss when the price premium is high and the rejection rate factor is low. Consequently, banning cosmetic standards may backfire</p>

	<p>and increase food waste instead. When retailers set a high cosmetic standard, we find that an effective policy intervention is to reduce the rejection rate to be below a threshold by, e.g., investment in agriculture research. We confirm and add to these results and policy implications in the presence of yield-enhancing efforts, an alternative sales channel, and harvesting cost variability.</p>
11.45am - 1.15pm	<p><b>Lunch</b> @ Catering area 3A, near SR 3.10, Level 3</p>
1.15pm - 2.15pm	<p><b>Paper 2</b></p> <p>Presenter: <b>Zhaowei SHE, Singapore Management University</b></p> <p>Discussant: <b>Hummy SONG, University of Pennsylvania</b></p> <p>Title: <b>Reverse Cross Subsidization in Healthcare Capitation Programs: Evidence from Medicare Advantage</b></p> <p><u>Abstract:</u> Capitation payment models have been increasingly adopted by healthcare payers around the world. However, healthcare services provided in Medicare Advantage (MA), the largest capitation program in the U.S., have been suggested to be more appealing to healthier patients and less appealing to sicker patients. The mismatch between a patient’s health status and the healthcare resources she gets from MA suggests that there may be a misallocation problem in MA. Despite extensive research on the Medicare capitation program, little is known about how MA health plans actually allocate these capitation payments to different patients due to limited access to MA health plans’ claims data. This paper utilizes a large commercial insurance database containing claims from more than 2 million MA enrollees to study the allocation problem of MA capitation payments. We empirically demonstrate that MA inadvertently incentivizes MA health plans to reallocate parts of the capitation payments from the sick to cross subsidize the healthy. By exploiting an exogenous policy shock on MA capitation payments through a Difference-in-Difference (DID) design, we identify, the first time in the literature, this reverse cross subsidization practice. Furthermore, we show that the reverse cross subsidization practice is associated with the risk selection problem in MA, where low-risk patients are more likely to enroll in MA compared to high-risk patients.</p>

2.15pm - 3.15pm

**Paper 3**Presenter: **Guiyun FENG, Singapore Management University**Discussant: **Saif BENJAAFAR, University of Minnesota****Title: Car Rental Program Design for Drivers Offered by a Ride-Hailing Platform**

Abstract: The growth of on-demand service platforms in many cities is limited by the availability of workers rather than customers. In order to secure enough drivers to meet demand, ride hailing platforms such as Lyft, Uber, and Grab have been offering short-term car rental programs to drivers who are interested to work as platform providers but don't have qualified cars (or who are reluctant to use their own cars). Different designs of car rental programs have been adopted and some of them discriminate between car rental drivers and those driving their own cars in one of the following manners: 1) by imposing restrictions on how rented cars should be used; 2) by imposing a surcharge for the personal use of rented cars; 3) by offering different wage compensation to these two pools of drivers. While the car rental program increases the platform's capacity from the supply side, some car rental drivers have raised fairness concerns stemming from the discriminating practicing mentioned above. Motivated by these observations, in our work, we build up a game-theoretic model to study the operation of different car rental programs in conjunction with a ride hailing platform. We further investigate the implications of different car rental programs to the platform, drivers, and riders. Surprisingly, we find that discriminating between car rental drivers and those driving their own cars can benefit all stakeholders (higher profit, higher drivers' surplus, more riders served) when the value per ride is not too high and car-own agents' driving cost is high enough. The contribution of the work is two-fold: 1) it offers managerial insights in terms of how the car rental program should be designed from the platform's perspective; 2) it provides a better understanding of the social impact of introducing car rental programs to increase the capacity of ride hailing platforms.

3.15pm - 3.45pm

**Tea Break @ Catering area 3A, near SR 3.10, Level 3**

3.45pm - 4.45pm

**Paper 4**Presenter: **Leon Liang XU, Singapore Management University**Discussant: **Yaozhong WU, National University of Singapore****Title: The Impact of Social Comparison on Newsvendor Decisions: An Experimental Investigation**

Abstract: For humans, it is important not just to perform well but also to perform well relative to others. However, extant research in inventory decisions focuses on individual decision biases, thus stripping the social dimension from the decision-making context. This study examines how individual newsvendor decisions are influenced by social comparison. Specifically, we investigate the following three questions. (1) Is social comparison a sufficiently strong factor to manifest itself through a host of individual behavioral biases known to be at play? (2) Which performance comparison, namely, actual profit or rank comparison, triggers the most salient social comparison and thus fosters different ordering behaviors? (3) Can social comparison be leveraged to counteract the individual decision biases responsible for notoriously poor individual newsvendor decisions? To answer these questions, we conducted an experiment in which we manipulated social comparison by providing decision-makers with different information about their peers: orders only, whose profit is ranked higher (without providing the exact profit information), and the exact profits. The data show that providing the rank information influences the players' inventory decisions the most and, importantly, improves their performance compared to the individual newsvendor. Using a structural model estimation, we demonstrate that the profit-proportional mechanism of social comparison is non-significant. In other words, at least in settings our experiment simulates, only rank-based social comparison plays a role. Our results also show that the psychological dis-utility of being inferior is more salient than the psychological reward of being superior, namely, peer pressure in our context is driven by fear pressure. As a result, subjects tend to match the decision of their peers to avoid any comparison. Overall, our results provide managerial insights on how to effectively leverage social comparison to improve the quality of inventory decisions.

4.45pm - 5.00pm

**Concluding Remarks****End of OM Winter Camp**

## **Discussants' Profile:**

**Dorothee HONHON** is a Professor of Operations/Supply Chain Management at the Naveen Jindal School of Management of the University of Texas at Dallas.

She has a Bachelor's degree and a Master's *degree* in business from the University of Liege, Belgium.

Her research interests include sustainability in supply chains (in particular food waste minimization) and retail operations.

She is the Chair of the UT Dallas university-wide Sustainability Committee and the Associate Dean for Diversity, Equity and Inclusion at the Naveen Jindal School of Management.

She is an Associate Editor at Management Science and Manufacturing & Service Operations Management and a Senior Editor at Production and Operations Management.

She teaches Operations management and Retail Operations at the graduate level.

**Hummy SONG** is an Assistant Professor of Operations, Information and Decisions at the Wharton School at the University of Pennsylvania. She also holds an appointment as Assistant Professor of Health Care Management. She conducted her undergraduate, master's, and PhD studies at Harvard University.

Professor Song's research focuses on identifying ways to improve the performance of service systems, with a particular emphasis on the health care sector. Her work has examined several factors related to patient flow and capacity management in health care delivery settings, including queue configurations, off-service placement, performance feedback, provider turnover, and team staffing. Her research utilizes large datasets derived from electronic health record systems, administrative databases, and surveys of the health care workforce. For her research, Professor Song has worked with hospitals and health care delivery organizations in the U.S. and in developing countries.

Professor Song's work has been published in leading academic journals including Management Science, Operations Research, and Health Services Research. Her work has also appeared in Harvard Business Review and has received media coverage in various outlets including the Wall Street Journal, Reuters, and CBS News. She is the winner of the 2022 POMS Early Career Research Accomplishments Award. She has received several recognitions for her research, including the M&SOM Service Management SIG Best Paper Award, INFORMS Health Applications Society Best Student Paper Award, and the Best OM Paper in Management Science Award (finalist). She currently serves as an Associate Editor of Management Science.

**Saif BENJAAR** is a leading scholar in the field of operations management and supply chains, working at the intersection of operations research, economics, and public policy. He has published ground breaking research that investigates how complex and global supply chains should be designed and managed. His work on sustainable operations introduced innovative ideas for reducing the environmental footprint of supply chains. His work on collaborative consumption and on-demand

service platforms is among the first to lay out the foundation for the economic and environmental analysis of the sharing economy.

A focus of his recent work is on sustainable operations and innovative business models, including online platforms and marketplaces, sharing economy and on-demand services, and smart city operations.

He is currently a University of Minnesota McKnight Presidential Endowed Professor (one of the highest recognitions for a faculty member at the University of Minnesota) and Distinguished McKnight University Professor. He is Head of the [Department of Industrial and Systems Engineering](#). He is Director of the Initiative on the Sharing Economy, a university-wide initiative with participation from faculty in management, engineering, public policy, industrial ecology, and law. He is also Professor of Industrial and Systems Engineering, Senior Faculty Scholar at the Center for Transportation Studies, and Fellow of the Institute on the Environment. He was the founding Head of Pillar (at the rank of Dean) for [Engineering Systems and Design](#) at Singapore University of Technology and Design (SUTD), a new university established in collaboration with MIT. He was also Founding Director of the Program in Industrial and Systems Engineering which he led through a transformation from a small graduate program into a full-fledged department.

He was a Distinguished Senior Visiting Scientist at Honeywell Laboratories and a Visiting Professor at universities in France, Belgium, Hong Kong, China and Singapore. He is the Editor in Chief of the INFORMS journal *Service Science*. He is a fellow of INFORMS (the Institute of Operations Research and Management Science) and of IISE (Institute of Industrial and Systems Engineers).

His papers have been published in leading journals including *Management Science*, *OR*, and *MSOM*. His research has been funded by NSF, DOT, DHS, and DARPA in the US and by NRF and MOE in Singapore. His research work and teaching have been recognized by numerous awards, including the Harold Kuhn Award, the MSOM Best Paper Award, the MSOM Service SIG Best Paper Award, the George Taylor Distinguished Teaching Award, and the INFORMS Distinguished Service Award, among others. He has consulted widely with leading companies and organizations such as Honeywell, General Mills, 3M, and the World Bank, among many others. He is a member of the Board of Directors of [Hourcar](#), a social car sharing organization and served on [Technology Advisory Board of the Keppel Corporation](#). His work was featured by major news outlets in the US, Asia, and Europe.

He Holds PhD and MS degrees from Purdue University and a BS degree from the University of Texas at Austin.

**Yaozhong WU** is an Associate Professor of Analytics and Operations at NUS Business School. He received his Ph.D. in Technology and Operations Management from INSEAD. His main research interests are in the field of behavioral operations management, focusing on how decision biases and social preferences influence operations and process design and performance. His papers have appeared in academic journals, such as *Management Science*, *Operations Research*, *Manufacturing & Service Operations Management*, *Production and Operations Management*, and *Journal of Operations Management*. Currently, he serves as a senior editor for *Production and Operations Management*.

~ *Thank you* ~