The Hong Kong University of Science and Technology

Dept of Information Systems, Business Statistics and Operations Management
Zoom Webinar Announcement

Video Game Analytics
by
Mr Xiao Lei

Operations Research
Columbia University

Date	:	**9 December 2021 (Thursday)**
Time	:	**10:00 - 11:15 AM**
Zoom ID	:	**937 4443 9854 (passcode 923966)**

Abstract: Video games represent the largest and fastest-growing segment of the entertainment industry, which involves 3 billion gamers and garners \$180 billion annually. Despite its popularity in practice, it has received limited attention from the operations community. Managing product monetization and engagement presents unique challenges due to the characteristics of gaming platforms, where players and the gaming platform have repeated (and endogenously controlled) interactions. In this talk, we describe a body of work that provides the first analytical results for this emerging market. In the first part, we discuss a prevailing selling mechanism in online gaming known as a loot box. A loot box can be viewed as a random bundle of virtual items, whose contents are not revealed until after purchase. We consider how to optimally price and design loot boxes from the perspective of a revenue-maximizing video game company, and provide insights on customer surplus and protection under such selling strategies. In the second part, we consider how to manage player engagement in a game where players are repeatedly matched to compete against one another. Players have different skill levels which affect the outcomes of matches, and the win-loss record influences their willingness to remain engaged. Leveraging optimization and real data, we provide insights on how engagement may increase with optimal matching policies, adding AI bots, and providing a pay-to-win feature.

Biography: Xiao Lei is a PhD candidate of Operations Research at Columbia University. His research interests include video game analytics, revenue management and pricing and social operations management. His work has been awarded INFORMS Service Science Best Student Paper Award and CSAMSE Best Paper Award. In the summer of 2020, he worked as a data science intern at Activision Blizzard.

All interested are welcome!
Enquiries: Dept of ISOM