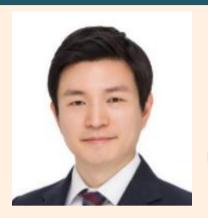# The Hong Kong University of Science and Technology
Dept of Information Systems, Business Statistics and Operations Management

Frontiers in Operations Management Workshop

Social Learning and Polarization on Content Platforms
by
Dr Dongwook Shin

Assistant Professor
Department of Information Systems, Business Statistics and Operations Management
The Hong Kong University of Science and Technology

Date	:	**2 December 2021 (Thursday)**
Time	:	**4:30 - 5:00 PM**
Venue	:	**Room G012, LSK Business Building, HKUST**

Abstract: This paper investigates the nature of social learning (SL) on content platforms and its impact on optimal content design. The content provider can choose low- or high-quality content and, in addition, may also polarize (as opposed to keeping it neutral) the content in favor of some consumers while opposing other consumers' opinions/preferences. On the content platform, SL manifests as consumers' inference about the unknown quality of content using the history of past consumption, based on which they make consumption decisions. We specify a behavioral model of SL that accounts for and illustrates the impact of false consensus effect (FCE) --- a cognitive bias wherein consumers project their own preference onto others --- on the SL outcome. In this environment, we find that whether the SL mechanism reveals the true quality of content depends largely on the interaction between content polarization and the degree of the FCE. Depending on the extent of the interaction, SL may be incomplete or even cursed in the sense that beliefs converge to a limit where history offers no information about quality. The optimal content design internalizes the SL dynamics and as a result, we find that quality and polarization can be used as substitutes by the content provider. In particular, content may be polarized to mask its low quality. Interestingly, we also find that SL increases the incentive for the content provider to increase quality compared to a benchmark without SL. Furthermore, we find parametric regimes in which SL may not be beneficial to consumers, but is in fact preferred by the content platform (and vice versa). In this sense, the value of SL may be misaligned between the platform and its consumers.

Bio: Dr Dongwook Shin is an Assistant Professor in the Department of Information Systems, Business Statistics and Operations Management at the HKUST Business School. He earned his PhD in the Department of Decision, Risk, and Operations, Columbia University in 2017. Before that, he received his bachelor degree from KAIST, and master degree from Columbia University. His research interests are in dynamic pricing and revenue management with applications in e-commerce, social learning, omni-channel operations, and machine learning and sequential learning problems.

All interested are welcome!
Enquiries: Dept of ISOM