

THE HONG KONG POLYTECHNIC UNIVERSITY DEPARTMENT OF MANAGEMENT AND MARKETING

Departmental Research Seminar

The Impacts of Recommendations on Consumption and Production on Online Content-Sharing Platforms By



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Venue : BC202

Abstract

Online content-sharing platforms such as TikTok and Facebook heavily rely on advanced algorithms to recommend user-generated content (UGC) to their users. These users can both consume and create UGC simultaneously. Previous research has shown the content recommended by algorithms significantly impacts users' consumption; however, these recommendations can also affect users' motivation to create content, as they provide insights into the works of other content creators and generate peer effects.

To study the impacts of recommendations on both consumption and production, we conducted a randomized field experiment on one of the world's largest online video-sharing platforms. In this experiment, we manipulated the popularity levels of the videos recommended by the algorithm. Our findings demonstrate that when users encounter recommended videos with lower popularity (measured by the number of followers of the creators), the video-viewing time among these users decreased by 1.38%. However, we also observed a substantial 2.39% increase in the number of videos uploaded to the platform. To understand and explain the observed changes in these behavior, we utilize a structural model that allows a user's incentive to create videos to be influenced by the "peer effect" captured by the relative popularity of recommended video creators and the user. We then use the estimation results of the structural model to conduct counterfactuals. Results reveal that recommending videos with high popularity is not always the optimal strategy when both content consumption and production are crucial to the platform. To maximize overall value, the algorithm should be tailored to recommend videos with varying levels of popularity, aligning with the individual users' preferences for consumption and production.

Prof. Tat Chan is the Philip L. Siteman Professor of Marketing in Olin Business School at Washington University in St. Louis. He received a Ph.D. in Economics at Yale University in 2001. His research interests are in empirical modeling various types of consumer and firm behaviors, offline and online, using econometric methodologies. He has conducted a wide range of research in the domain of economics and marketing. His research has been published in top economics and marketing journals. He currently serves as a senior editor at the journal *Marketing Science*.

All interested are welcome.



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