

GUANGYING CHEN

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EMPLOYMENT

Marshall School of Business, University of Southern California Assistant Professor of Marketing	June 2025 - Present
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EDUCATION

Olin Business School, Washington University in St. Louis Ph.D. in Marketing (Quantitative)	2019 - 2025
Economics Department, Washington University in St. Louis M.A. in Economics	2017 - 2019
Tsinghua University M.A. in Economics	2014 - 2017
Peking University B.A. in Economics and B.S. in Statistics	2010 - 2014

RESEARCH INTERESTS

Substantive: Digital Platforms, Social Media, Recommender Systems, Privacy, Influencer Marketing, Creator Economy, Artificial Intelligence
Methodological: Field Experiment, Structural Model, Causal Inference, Machine Learning

RESEARCH

Manuscripts Under Review

- Chen, Guangying, Tat Y. Chan, Dennis J. Zhang, and Industry Collaborators. “The Impact of a More Diversified Recommender System on Digital Platforms: Evidence from a Large-Scale Field Experiment.” Major revision at *Management Science*. [SSRN]
- Chen, Guangying, Cheng Lu, Tat Y. Chan, Zhengling Qi, Dennis J. Zhang, and Industry Collaborators. “A New Estimator for Encouragement Design in Randomized Controlled Trials When the Exclusion Restriction Is Violated.” Major revision at *Marketing Science*. [SSRN]
— Finalist, 2025 ASA Statistics in Marketing Doctoral Dissertation Research Award
— Runner-up (Top 5%), 2024 INFORMS Information Systems Cluster Best Paper Award

Working Papers

- Chen, Guangying, Tat Y. Chan, and Dennis J. Zhang. “The Intended and Unintended Consequences of Privacy Protection in Social Media: A Large-Scale Field Experiment and Structural Analysis.” [SSRN]

Work in Progress

- Chen, Guangying, Tat Y. Chan, and Dennis J. Zhang. "The Effects of Recommendations on Social Engagement and User-Generated Content Creation."
- Chen, Guangying, P.B. Seethu Seetharaman, and Annie L. Shi. "Impact of Covid-19 Lockdown on Customer Shopping: A Supermarket Retail Demand Perspective."

CONFERENCE PRESENTATIONS

"A New Estimator for Encouragement Design in Randomized Controlled Trials When the Exclusion Restriction Is Violated"

Joint Statistical Meetings, Nashville, TN (scheduled)	2025
Annual ISMS Marketing Science Conference, Washington, D.C.	2025
5th AI in Management Conference, Los Angeles, CA	2025

"The Impact of a More Diversified Recommender System on Digital Platforms: Evidence from a Large-Scale Field Experiment"

INFORMS Annual Meeting, Phoenix, AZ	2023
Advances with Field Experiments Conference, Chicago, IL	2023
Annual ISMS Marketing Science Conference, Miami, FL	2023
POMS Annual Conference, Orlando, FL	2023
Online Research Seminar on Digital Businesses, Virtual	2023
Workshop on Platform Analytics, San Diego, CA	2023

INVITED TALKS

City University of Hong Kong, Hong Kong	2024
USC Marshall School of Business, Los Angeles, CA	2024
The Chinese University of Hong Kong, Shenzhen, Shenzhen	2024
HKU Business School, Hong Kong	2024
CUHK Business School, Hong Kong	2024

TEACHING EXPERIENCE

Teaching Assistant - Washington University in St. Louis

A/B Testing in Business and Social Science (Master)	SP 2024
Understanding & Conducting Business Experiments (Undergraduate)	SP 2024
Text Mining (Master)	SP 2023, SP 2022, SP 2021
Pricing Strategies (Undergraduate/Master/MBA)	FL 2022, FL 2021, FL 2020
Quantitative Methods in Economics II (Ph.D. Core)	SP 2019
Applied Econometrics (Ph.D. Core)	FL 2018

INDUSTRY EXPERIENCE

Research Intern, Kwai Inc.	August 2023 - Present
Research Intern, NetEase Cloud Music Inc.	September 2021 - July 2023

HONORS AND AWARDS

ISMS Doctoral Consortium Fellow	2023
Doctoral Fellowship, Olin Business School, Washington University in St. Louis	2019-2024
Doctoral Fellowship, Economics Department, Washington University in St. Louis	2017-2019
Model Student for Excellent Academic Performance Award (13/173), Peking University	2013
Merit Student Award (6/173; excellent overall performance), Peking University	2012
Yihai-Kerry Scholarship (2/55; excellent academic performance), Peking University	2012

ABSTRACTS OF REPRESENTATIVE PAPERS

“The Intended and Unintended Consequences of Privacy Protection in Social Media: A Large-Scale Field Experiment and Structural Analysis.”

In the digital age, privacy concerns are escalating with the increased collection and use of personal information. Consequently, regulators have increasingly pushed companies to make the use of personal information more transparent and protect users with more privacy protection measures. However, the impacts of these policies on user behaviors and welfare remain unclear. We investigate this issue through a large-scale, randomized field experiment on a leading global social media platform. In the experiment, treated users were offered a privacy protection option to disable the “People You May Know” (PYMK) recommender algorithm, which could display their content to users whom the algorithm predicts are their friends elsewhere. Control users were neither informed about nor allowed to disable this function. Interestingly, we found that treated users, on average, decreased their video usage time by 0.78% compared with control users. However, the usage time of those treated users who chose to disable the function increased by 14.62% compared with a matched sample. We interpret these results as the privacy protection option having two consequences: On one hand, it raises users’ concerns by reminding them that their personal information is being used, thereby unintentionally reducing their usage time. On the other hand, it allows users to disable the use of personal information, which eliminates such concerns and leads to an increase in usage time as intended. To evaluate the social welfare impact of our and alternative privacy protection measures, we estimate a structural model that describes users’ decisions regarding usage and disabling the PYMK function, and use the results to run counterfactuals. The results demonstrate that different policies could lead to drastically different social welfare outcomes, highlighting the importance of considering both intended and unintended consequences. In particular, we find that lowering the costs of adopting the PYMK protection option is crucial not only for increasing overall social welfare but also for aligning the incentives of consumers and the platform, potentially creating a win-win scenario for both.

“The Impact of a More Diversified Recommender System on Digital Platforms: Evidence from a Large-Scale Field Experiment”

Personalized recommender systems are widely used by major content platforms to boost user consumption and engagement by suggesting content that users have previously enjoyed and interacted with. A fundamental trade-off in designing these systems lies between exploitation and exploration: deciding whether to recommend familiar content that users favor or to introduce new, diverse content that may interest them in the future. We empirically examined this trade-off in a real-world-scale recommender system through a partnership with a leading global music-streaming service platform. We conducted a large-scale field experiment where users were randomly assigned to receive recommendations from either the platform’s standard algorithm or a modified version that

recommends more diverse content. Contrary to industry expectations, increasing the diversity of the recommender algorithm does not enhance users' consumption diversity; instead, it marginally reduces their click days on the platform. However, among active users—who account for most of the platform's content usage—a 1% increase in recommendation diversity resulted in a 0.55% increase in their consumption diversity, without affecting overall consumption levels. The increase in consumption diversity corresponds with the more accurate prediction of their consumption preferences. The results suggest that the platform should tailor its algorithm to recommend more diverse content for active users.

"A New Estimator for Encouragement Design in Randomized Controlled Trials When the Exclusion Restriction Is Violated"

Encouragement design is widely used in randomized controlled trials when noncompliance in the treatment group, control group, or both is non-negligible. The standard identification strategy is to use the randomized group assignment as an instrumental variable to estimate the local average treatment effect (LATE). In many experiments, however, this instrument may violate the exclusion restriction condition, because the encouragement can directly impact the interested outcome variable. We develop a new \sqrt{n} -consistent estimator using the randomized group assignment to construct an instrument that relies on the heteroskedasticity of treatment intensities between groups. Our identification strategy can recover not only LATE but also the direct impact of the encouragement on outcomes. We further propose a min-max estimator for consistent nonparametric estimation of heterogeneous treatment effects. Finally, we conducted a large-scale field experiment with a social media platform to study how expanding users' social networks influences their platform usage. While ordinary least squares and standard two-stage least squares estimators report a positive effect, our estimator suggests that the effect comes solely from the encouragement. We find evidence supporting the null effect of network expansion, indicating that firms may waste resources on false positives when the exclusion restriction is violated in their field experiments.