

ZIWEI CONG

Hong Kong University of Science and Technology, Business School

Clear Water Bay, Kowloon, Hong Kong

Phone: (852) 6768-0669 ◊ Email: zcongaa@connect.ust.hk ◊ Website: ziweicong.github.io

(For the most recent version, please go to ziweicong.github.io/assets/pdf/cv.pdf)

EDUCATION

Hong Kong University of Science and Technology, Hong Kong

Ph.D. Candidate, Quantitative Marketing June 2022 (Expected)

M.Phil., Quantitative Marketing June 2018

Renmin University of China, Beijing, China

M.Phil., Economics June 2016

Exchange at the EDHEC Business School, Nice, France Fall 2014

B.Sc., Economics June 2013

RESEARCH INTERESTS

Substantive: Content Economy, User Generated Content, Pricing, Recommendation Algorithms

Methodological: Causal Inference, Machine Learning, Quasi-Experimental Methods, Natural/Field Experiments

DISSERTATION

Title: Monetizing User Generated Content: Design and Incentive

Essay I: “Understanding Users’ Content Contribution Behavior When Content Can Be Priced”

Essay II (Job Market Paper): “The Role of “Live” in Livestreaming Market: Evidence using Orthogonal Random Forest”

Co-chairs: Ying Zhao and Jia Liu

WORKING PAPERS (* INDICATES EQUAL AUTHORSHIP)

Cong, Ziwei, Jia Liu and Puneet Manchanda (2021), “The Role of “Live” in Livestreaming Market: Evidence using Orthogonal Random Forest.” (**Job Market Paper**) [Paper]

Liu, Jia* and Ziwei Cong* (2021), “The Daily Me versus The Daily Others: Can Social Recommender Systems Diversify User Interests?” Invited for revision at *Journal of Marketing Research* [Paper]

Cong, Ziwei, Ying Zhao and Zilei Zhang (2020), “Understanding Users’ Content Contribution Behavior When Content Can Be Priced.” Preparing for submission to *Marketing Science*

WORK IN PROGRESS

Cong, Ziwei and Jia Liu, “How Can Recommendation Algorithms Influence What Content Users Contribute? Evidence from a Quasi-Experiment.” Model estimation in progress

“Understanding User Purchase of Paid Online Content using Free Content Consumption and Social Interaction Networks” with Jia Liu and Yue Wang. Model development in progress

HONORS AND AWARDS

Fellow, Marketing Science Doctoral Consortium 2021	June 2021
Finalist, 2021 Best Doctoral Dissertation Proposal Competition, the American Statistical Association Section on Statistics in Marketing	January 2021
Dean’s PhD Fellowship for Research Excellence 2020-21, HKUST	October 2020
UGC Research Travel Award×3, HKUST	2019, 2021
Postgraduate Studentship, HKUST	2016-2021
National Scholarship, Ministry of Education, China	2013-2015
Outstanding Student Award, Beijing Municipal Commission of Education, China	2013
Outstanding Undergraduate Thesis Award, Renmin University of China	2013
Honor of Excellent Student, Renmin University of China	2010-2012

INVITED TALKS

“Monetizing User Generated Content: Design and Incentive” (Dissertation)
Joint Statistics Meetings, American Statistical Association August 2021 (Scheduled)

CONFERENCE PRESENTATION

“The Role of “Live” in Livestreaming Market: Evidence using Orthogonal Random Forest”

ISMS Marketing Science Conference, University of Rochester	June 2021
Conference on AI/ML, NYU, Temple & CMU University	December 2020
<i>Journal of Marketing</i> Research Development Workshop	April 2019

“The Daily Me versus The Daily Others: Can Social Recommender Systems Diversify User Interests?”

HKUST Marketing Brown Bag Seminar, HKUST	March 2021
--	------------

“Content-based or Social Network-based Recommendation System? Evidence from a Natural Experiment on Knowledge Sharing Platform”

ISMS Marketing Science Conference, University of Roma Tre	June 2019
China Marketing International Conference	July 2019

TEACHING EXPERIENCE

Teaching Interests

Digital Marketing, Marketing Analytics, Marketing Research, Marketing Management

Teaching Assistant, HKUST

Marketing Strategy and Policy (MBA), Joseph SALVACRUZ 2021

Marketing Research (Undergraduate), Jia Liu 2020

Consumer Behavior (Undergraduate), Rongrong Zhou 2020

Marketing Research (Undergraduate), Song Lin 2019

Teaching Assistant, Renmin University of China

The Economics of One Belt and One Road (Undergraduate Seminar) Spring 2016

Business Negotiation (Undergraduate) Fall 2015

PROFESSIONAL EXPERIENCE

Zhihu, Beijing, China

June-August 2017

Research Intern

PROGRAMMING

Python, Stata, R, SQL, PyTorch, Tensorflow, Skorch, Spark, HTML

GRADUATE COURSEWORK

Marketing and Business

Quantitative Modeling Ying Zhao

Experimental Design and Analysis A V Muthukrishnan

Behavioral Decision Theory A V Muthukrishnan

Consumer Research Seminar Ralf Van Der Lans et al.

Analytic Models Useful in Marketing Robert Zeithammer

Advanced MIS Research Seminar Xiaoquan(Michael) Zhang

Consumer Behavior Seminar En-Chung Chang

Corporate Finance Peter MacKay

Economics

Microeconomics Theory I Yuk-fai Fong

Microeconomics Theory II Xiaojian Zhao

Econometrics Jin Seo Cho

Demand Analysis Xiaohua Yu

Empirical Industrial Organization Lihong Yang

Current Topics in Industrial Organization Lihong Yang

Economics of Regulation and Antitrust
International Economics
Economic Change in Rural China

Yongjun Chen
Wentan Wang
James Kung

Statistics and Computer Science

Introduction to Probability
Math for Bus & Econ
Big Data Analytics
Applied Statistics in Economics and Business
Programming with R (audit)
Introduction to Social Computing (audit)
Deep Learning (audit)

Lancelot James
Zhou Lingzhi
Rong Zheng
Wuwu Qing
Yangguang Huang
James Kwok
Qifeng Chen

REFERENCES

Ying Zhao (Co-advisor)

Associate Profession of Marketing
HKUST Business School
Phone: (852)2358-7701
Email: mkyzhao@ust.hk

Jia Liu (Co-advisor)

Assistant Profession of Marketing
HKUST Business School
Phone: (852)2358-7709
Email: jialiu@ust.hk

Puneet Manchanda

Isadore and Leon Winkelman Professor of Marketing
Ross School of Business
University of Michigan
Phone: (734)936-2445
Email: pmanchan@umich.edu

RESEARCH ABSTRACTS

Cong, Ziwei, Jia Liu, and Puneet Manchanda (2021), “**The Role of “Live” in Livestreaming Market: Evidence using Orthogonal Random Forest.**” (Job Market Paper)

Abstract: Livestreaming services encompass a wide variety of topics, from professional sports to video games to online education. The COVID-19 pandemic has further energized the already vigorous growth of the livestreaming economy (133% from 2016 to 2021). A major challenge for creators to set prices for their live events, especially when the event recording is also available in non-live settings. The major challenge for pricing live content is to understand demand for it. This is because of three reasons. First, randomized experiments might be infeasible in such contexts due to the non-standardized or non-replicable nature of live content, making observational data the primary source for demand estimation. Second, the prices set by creators in real-world settings might be confounded by many factors in complex and (partially) unknown ways. This can result in a high-dimensional setting where the number of variables is large relative to the sample size. Third, price sensitivity might vary across many dimensions due to the high degree of heterogeneity in content, creators, and consumers. To address these challenges, we propose an approach that delivers nonparametric estimation of heterogeneous treatment effects (e.g., price elasticity of demand) in the presence of high-dimensional confounders whose relationships with the treatment policy (e.g., price) are complex but partially known. Our approach generalizes Orthogonal Random Forest (ORF) by enabling semiparametric Deep Neural Networks for estimating the functions of all confounding variables. Our empirical application uses rich data from Zhihu, the largest knowledge-sharing platform in China, which started out as an online Q&A community (similar to Quora) where users contribute content on voluntary basis and later allowed users to host paid livestreaming events (Zhihu Live) and set their own prices. During a live event (denoted as “Live”), the creator gives a real-time talk on certain topics (e.g., history, business, etc.) and interacts with viewers via text, voice, or picture messages in a virtual chat room. After the Live concludes, its recorded version is available for purchase on Zhihu at the same price. My main result shows significant temporal dynamics in price sensitivity relative to the day of Live. Specially, demand gradually becomes less price sensitive approaching the Live day, is inelastic on the Live day, becomes price sensitive throughout the post-period (though, on average, less sensitive than pre-Live period). This pattern suggests that while the live part of the content is valuable (as can be seen by the inelastic demand on the livestream day), there is considerable value in the content that is not centered in its live attribute. I then explore mechanisms driving the results. Via a series of analyses, I conclude that the best fitting mechanism explaining this is uncertainty reduction. It turns out that viewers are much better at assessing the quality of the content after the event, leading to an on average, lower price sensitivity for the recorded (non-live) content. My findings are likely to be of value to both creators and platforms in the sense that they encourage them to provide both live and recorded content to enhance revenue and provide value to viewers. In addition, marketing efforts to reduce uncertainty about upcoming events could also be beneficial for all parties (creators, platform, viewers).

Liu, Jia*, and Ziwei Cong* (2021), “**The Daily Me versus the Daily Others: Can Social Recommender Systems Diversify User Interests?**” Invited for Revision at *Journal of Marketing Research*

Abstract: Recommender systems have been blamed for polarizing user attention and consumption. This paper examines this phenomenon, by leveraging a field intervention on the largest online Q&A community in China. The platform had been relying on content-based

recommender system that recommends content based on user subscribed topics since its launch in 2011. In August 2012, without any public notifications to its users, the platform changed its recommender system to social filtering, which recommends content engaged by a user's on-line social connections (i.e., followees). We investigate the impact of social filtering in relative to content-based filtering by comparing user activities before and after the intervention. We find that the social filtering system could be a double-edged sword. The negative outcome we document is that social filtering intensifies popularity of already-popular users, leading to a rich-get-richer effect in the online community. In contrast, a positive outcome is that social filtering helps users explore niche content they would not discover on their own, by exposing users to content that is "filtered" by their followees who tend to have higher domain expertise and clearer lines of interests. Importantly, this finding suggests that the impact of social filtering might depend on characteristics of users and their online social network. More broadly, this research contributes to the debate centered around "filter bubble" and provides managerial implications for platforms' curation algorithm design.

Cong, Ziwei, Ying Zhao, and Zilei Zhang (2020), "**Understanding Users' Content Contribution Behavior When Content Can Be Priced.**" Preparing for submission to *Marketing Science*

Abstract: With the rise of creator economy, many content platforms have been exploring ways for creators to monetize content. A recent and increasingly popular approach adopted by many platforms is to provide creators with freedom to launch paid content directly to viewers. For example, in August 2021, Facebook launched a new feature that allows users to host paid online event (e.g., online classes or tutorials) to generate revenue. This paper evaluates the implications (externalities) of monetizing content on a platform's "ecosystem." Specifically, We seek to understand whether and how giving creators the option to provide paid content influences creators' incentive in providing free content. Our empirical study is based on dataset from Zhihu, the largest knowledge-sharing platform in China. Zhihu started out as an online Q&A community that is based on users' voluntary contribution. It later introduced the Zhihu Live program that allows participants to deliver exclusive talks to paid customers. Using the difference-in-differences approach, we find that the content providers holding priced talks tend to contribute more free content on the main Q&A platform than those using the free Q&A platform only. We explore the robustness of this result against potential selection bias with four alternative approaches: propensity-score matching, Causal Forest (Athey et al., 2019), Rosenbaum bounds, and an approach developed by Altonji et al. (2002, 2005) that accesses the degree of omitted variables bias. We further show that the effect is more pronounced with the starting time of Live talks approaching and is larger for participants who have less-established reputation or face more intense competition. These findings suggest that participants strategically leverage free content to boost reputation and attract "eyeballs" for paid content. This research shed lights to the overall impact of content monetization on the entire platform "ecosystem," where free and paid content are interconnected parts and might have spillover effects to each other.

(* indicates equal authorship)