Mengxia Zhang

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EDUCATION

Present	PhD Candidate, Marketing, University of Southern California, GPA 3.95/4
2015	Master of Management, Peking University, Rank 1/63
2015	Master of finance, The University of Hong Kong, GPA 3.92/4
2012	Bachelor of Economics, Peking University, GPA 3.92/4
2012	Bachelor of Laws, Peking University, Rank 1/227

DISSERTATION COMMITTEE

Lan Luo (Chair)
Michael Leung (Economics), Dina Mayzlin, Yanhao (Max) Wei, Sha Yang

RESEARCH INTERESTS

Substantive Areas: marketing analytics, visual marketing, AI and human relationship, user engagement, new media
Methods: quantitative modeling, machine learning, deep learning, field experiment

WORKING PAPERS

1. Mengxia Zhang and Lan Luo (2019), " Can User-Posted Photos Serve as a Leading Indicator of Restaurant Survival? Evidence from Yelp", *resubmitted to* ***Management Science***.
   *Presented at 2018 Advanced Research Techniques (ART) Forum, Columbus, OH
   ***2018 ISMS Doctoral Proposal Competition Award Winner**
   ***2018-2019 Shankar-Spiegel Award Runner-up**
2. Mengxia Zhang and Lan Luo (2019), "Motivate Content Contribution on Knowledge Markets by Peer Voting or Social Network? Evidence from Observational Data and Field Experiment", *model development in progress.*
3. Mengxia Zhang, Tianshu Sun, and Lan Luo (2019), "Consumer and AI Co-creation: When and Why Can Humans Improve AI Creation", *model development in progress*.

DOCTORAL COURSE WORK

Marketing

Strategic and Marketing Mix Models	Sivaramakrishnan Siddarth and Gerard J. Tellis	A
Theory and Application of Regression Analysis, UCLA	Peter E. Rossi	Credit
Consumer Behavior and Decision Making	Kristin Diehl and Joseph Nunes	A-
Advanced Quantitative Models in Marketing	Dina Mayzlin and Sha Yang	A
Marketing Models in Consumer and Business-to-Business Markets	Anthony Dukes and Shantanu Dutta	A
Understanding Consumer and Organizational Buying Behavior	Deborah MacInnis	A

Economics

Microeconomic Theory I	Michael Magill	A

Probability and Statistics for Economists	Georgios Effraimidis	A
Econometric Methods	Hyungsik Roger Moon	A
Time-Series Analysis, UCLA	Raffaella Giacomini	Credit
Selected Issues in Economic Theory I	Anthony M. Marino	A
Applied Econometrics	Cheng Hsiao	A
Economic Analysis of Social Networks	Michael Leung	A
Empirical Industrial Organization	Yu-Wei Hsieh	A
Empirical Methods for Industrial Organization, Caltech	Matthew Shum	Audit
Computer Science and Statistics		
Machine Learning	Yan Liu	A
Applied Natural Language Processing	Ron Artstein	A
Web Technologies	Marco Papa	A-
Structure and Dynamics of Networked Information	David Kempe	A
Deep Learning	Joseph Lim	A

PROFESSIONAL AFFILIATIONS

American Marketing Association (AMA)
American Economic Association (AEA)

COMPUTER SKILLS

Proficient in: Python, R, Matlab, Latex
Experience in: Tensorflow, Pytorch, Caffe, Torch, PHP, SQL, JavaScript, HTML, Eviews, C++, Gephi, Stata, VBA

ABSTRACTS OF WORKING PAPERS

Essay 1: Can User-Posted Photos Serve as a Leading Indicator of Restaurant Survival? Evidence from Yelp

Mengxia Zhang and Lan Luo (2019)

Despite the substantial economic impact of the restaurant industry, large-scale empirical research on restaurant survival has been sparse. We investigate whether consumer-posted photos can serve as a leading indicator of restaurant survival above and beyond reviews, firm characteristics, competitive landscape, and macro conditions. We employ machine learning techniques to analyze 755,758 photos and 1,121,069 reviews posted on Yelp between 2004 and 2015 for 17,719 U.S. restaurants. We also collect data on these restaurants' characteristics (e.g., cuisine type; price level), competitive landscape, and their entry and exit (if applicable) time based on each restaurant's Yelp/Facebook page, own website, or the Google search engine. Using a predictive XGBoost model, we find that photos are more predictive of restaurant survival than are reviews. Interestingly, the information content (e.g., number of photos with food items served) and helpful votes received by these photos relate more to restaurant survival than do photographic attributes (e.g., composition or brightness). Additionally, photos carry more predictive power for independent, mid-aged, and medium-priced restaurants. Assuming that restaurant owners do not possess any knowledge about future photos and reviews for both themselves and their competitors, photos can predict restaurant survival for up to three years, while reviews are only informative for one year. We further employ causal forests to facilitate interpretation of our predictive results. Our analysis suggests that, among others, the total volume of user-generated content (including photos and reviews) and helpful votes of photos are both positively related to restaurant survival.

Essay 2: Motivate Content Contribution on Knowledge Markets by Peer Voting or Social Network? Evidence from Observational Data and Field Experiment

Mengxia Zhang and Lan Luo (2019)

In the era of sharing economy, consumers are not only sharing houses, cars, but also knowledge. Unlike houses and cars, knowledge is usually free and available to all consumers, but contributing knowledge takes effort. Therefore, knowledge contributions to online knowledge-sharing platforms suffer from the classical under provision problem – the provision of a good or service that is less than the optimal amount. Consequently, to motivate users to contribute knowledge, online knowledge-sharing platforms are increasingly offering peer voting. In addition to this, some platforms also integrate social networks. However, research has been sparse as to how knowledge contribution is affected by peer voting and social networks. In this research, we try to answer this question by employing a field experiment on an online knowledge-sharing platform, where we exogenously increase the total number of upvotes or/and the total number of followers. The experiment shows that in general, peer voting is more effective than social networks in stimulating knowledge contribution. Peer voting works better for users with low/medium status, while social networks are effective for users with high peer recognition status. We believe this is the first field experiment to study the effect of peer voting on content contribution. We are also among the first to examine the causal effects of peer voting and social networks on knowledge contribution.

Essay 3: Consumer and AI Co-creation: When and Why Can Humans Improve AI Creation?

Mengxia Zhang, Tianshu Sun, and Lan Luo (2019)

AI replacing humans seems to be a general trend in many industries, such as self-driving cars and AI news reporters. To embrace the prosperity of AI algorithms, many social media platforms and e-commerce sites have been making choices for consumers using machine-generated outputs (e.g., news recommendation, personal styling). In such cases, it is unclear whether firms should actively seek out consumer inputs to activate a human and AI co-creation process. On the one hand, such a co-creation requires additional time and effort from consumers, which may discourage them from moving forward with the creation. On the other hand, consumer inputs may enhance the creation, leading to higher conversion and satisfaction. Using a randomized field experiment involving 128,153 consumers, we investigate whether firms should actively invite human inputs on top of AI creation. We find that 1) 6% of consumers are willing to provide human inputs upon a mild nudge and that 2) the induced human inputs lead to an immediate 22% increase of purchase and more purchases in the long run. Evidence shows that this positive effect of induced human inputs is due to both an IKEA effect (effort leads to love) and private preference effect (human inputs helps consumers reveal preference). Moreover, we find the positive effect of induced consumer inputs on purchases increases with project complexity and consumer knowledge, which further explains the discovery that the induced consumer inputs lead to the most increase in purchase for consumers who are married or single females. This research contributes to the debate about human-AI relationship by showing that consumer inputs complement AI creation.