

# Dai YAO

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Dept of Management and Marketing  
Faculty of Business  
The Hong Kong Polytechnic University  
Hung Hom, Kowloon, Hong Kong

Phone: (852) 2766 7143  
Email (Professional): [daiyao@polyu.edu.hk](mailto:daiyao@polyu.edu.hk)  
Email (Personal): [DAI@yaod.ai](mailto:DAI@yaod.ai), [@yodadai.com](mailto:@yodadai.com)  
Homepage: [www.yaod.ai](http://www.yaod.ai), [www.yodadai.com](http://www.yodadai.com)

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## Education

PhD in Management (Marketing), INSEAD, 2009-2014  
MSc in Operations Management, Singapore Management University, 2007-2009  
B.Eng in Computer Science and Technology, Tsinghua University, 2002-2006

## Professional Experience

Associate Professor of Marketing, The Hong Kong Polytechnic University, 2021.09-  
Assistant Professor of Marketing, National University of Singapore, 2014.07-2021.06

## Research

### *Interests/expertise and topics*

Development, Application, and Incubation (DAI) of Statistics, Artificial intelligence, Neuroscience, and Economics based (SANE) solutions for business problems, using a Data-driven, Analytics-empowered, and Intelligence-guided (DAI) approach

Digital economies; platform economics; two-sided markets; social influences; externalities; spillovers; pay-what-you-want; omnichannel; previews; free samples; decision biases; emotion; satisfaction; nudging; learning; privacy

*Publications*    <sup>†</sup> equal authorship.    <sup>‡</sup> correspondence.    \* student when the project started.

1. Yao, Dai, Shijie Lu, and Xingyu Chen, "Crowding-Out in Content Monetization under Pay-What-You-Want: Evidence from Live Streaming," *Production and Operations Management*, conditional accept.
2. Yao, Dai, Chuang Tang\*, and Junhong Chu (2023), "A Dynamic Model of Owner Acceptance in Peer-to-Peer Sharing Markets," *Marketing Science*, 42(1), 166-188.  
- [Github Repo](#), [SSRN](#), [Some relevant slides \(in Chinese\)](#)

3. Duong, Hai Long\*, Junhong Chu, and Dai Yao (2023), "Taxi Drivers' Response to Cancellations and No-shows: New Evidence for Reference-dependent Preferences," *Management Science*, 69(1), 179-199.
4. Lin, Yan, Dai Yao, and Xingyu Chen (2021), "Happiness Begets Money: Emotion and Engagement in Live Streaming," *Journal of Marketing Research*, 58(3), 417-438. († first two authors in alphabetical order)  
 - [Lead Article, JMR 2022 Top Cited Articles \(# 2\), JMR Most Read Articles, JMR Most Cited Articles \(# 1 of all papers in past three years\)](#)
5. Lu, Shijie, Dai Yao, Xingyu Chen, and Rajdeep Grewal (2021), "Do Larger Audiences Generate Greater Revenues under Pay What You Want? Evidence from a Live Streaming Platform," *Marketing Science*, 40(5), 964-984.
6. Chen, Xingyu, Xing Li, Dai Yao, and Zhimin Zhou (2019), "Seeking the Support of the Silent Majority: Are Lurking Customers Valuable to UGC Platforms?" *Journal of the Academy of Marketing Science*, 47(6), 986-1004. († authors in alphabetical order)  
 - [Lead Article](#)
7. Chae, Inyoung, Andrew Stephen, Yakov Bart, and Dai Yao (2017), "Spillover Effects in Seeded Word-of-Mouth Marketing Campaigns," *Marketing Science*, 36(1), 89-104.

### *Selected working papers*

8. Lobo, Miguel Sousa, and Dai Yao, "Human Judgment is Fat-Tailed: Empirical Evidence and Implications for the Aggregation of Estimates and Forecasts," preparing for 2nd review at *Management Science*.
9. Liang, Ce, Lu Meng, Shen Duan, Dai Yao, and Yuwei Jiang, a paper on tipping behaviors, preparing for 2nd review at *Journal of Consumer Research*.
10. Chen, Xingyu, Yan Lin, and Dai Yao<sup>†</sup>, "All Smiles Are Not Created Equal: Duchenne Smiles Reduce Extrinsic Rewards from Viewers in Live Streaming," († authors in alphabetical order), prep for submission at *Marketing Science* after rejection at *Frontiers*.
11. Li, Xi, Yacheng Sun, and Dai Yao, "In-Store Social Crowdedness and Customer Behaviors," († authors in alphabetical order).
12. Koh, Kane\*, Dai Yao<sup>†</sup>, Fang-Chi Lu, Jing Lei, and Liliana Bove, "Roses are Also Fragrant in Others' Hands: Consumer-to-Consumer Gifted Subscriptions in Live Streaming."
13. Yao, Dai, Xing Li, and Xingyu Chen, "Ordeal by Innocence: Proactive Nudging and User Engagement in Online Communities."

## Cases

1. Wang, Chuang, Minna Bai, and Dai Yao<sup>†</sup> (2023), "Leyaoyao's Diversification: Vertical or Horizontal?" [Ivey Publishing](#).
2. Chen, Xingyu, Li Ji, Ling Jiang, Shijie Lu, and Dai Yao<sup>†</sup> (2020), "Mobiuspace: Venturing into Emerging Markets," [Ivey Publishing](#), [Harvard Business Publishing](#).
3. Chen, Xingyu, Ling Jiang, Li Ji, and Dai Yao<sup>†</sup> (2020), "Youliaodao in the Era of Paid Knowledge: Go Big or Go Home?" [Ivey Publishing](#), [Harvard Business Publishing](#).

## Practice-Oriented

1. Sun, Yacheng, Dai Yao, and Yijun (Adrien) Zou (2023), "Towards a Utopian Smart Retail Industry," *Tsinghua Business Review*, 4. [Link](#).

## Academic Presentations \* selected presentations by coauthors.

### In-Store Social Crowdedness and Customer Behaviors

- HK Quant MKT Conf, HKU (2023); UMacau (2023); MKSC Conf, UMiami (2023)

### Roses are Also Fragrant in Others' Hands: . . .

- HK Quant MKT Seminar Series (2023); MKSC Conf, UMiami (2023); TPM Conf, HEC Lausanne (2023)

### All Smiles Are Not Created Equal: . . .

- UMelbourne (2022); HNU, CN (2022); UWarwick (2022); NTU (2021)

### Social Impact of Viewer Engagement in Live Streaming

- TPM Conf, Columbia Univ. (2019); MKSC Conf, UMiami (2023)

### Ordeal by Innocence: . . .

- HNU, CN (2019); PKU-PHBS (2019); *Interactive Marketing Research Conf*, ULondon (2020, *cancelled*)

### A Dynamic Model of Owner Acceptance in Peer-to-Peer Sharing Market

- Boston College (2021); UHouston (2018)

### Happiness Begets Money: Emotion and Engagement in Live Streaming

- HK PolyU (2021); THU (2020); PKU-Guanghua (2020); HK CityU (2020); MKSC *Virtual Conf*, Duke (2020); *The 18th Pre-ICIS Workshop on e-Business*, Munich, DE (2019)\*; *Conf on AI & ML, and Business Analytics*, Temple (2019)

### Do Larger Audiences Generate Greater Revenues . . .

- XMU, CN (2018); Fudan (2017); PKU-Guanghua (2017); *China India Insights Conf*, Yale & INSEAD (2018); *NUS-Tsinghua Workshop on Digital Economy*, THU (2018); *The 12th Annual Bass FORMS*, UTD (2018)\*; *Conf on Digital, Mobile Marketing, and Social*

*Media Analytics*, NYU (2017)\*; *Marketing Dynamics Conf*, HKUST (2017); *MKSC Conf*, USC (2017)

#### Prospect of Financial Rewards Induces Strategic Provision of Voluntary Content

◦ HEC Paris (2019)\*; *NUS-Tsinghua Workshop on Digital Economy*, NUS (2019)

#### Content Monetization and Preview Design

◦ *Marketing Analytics Symposium at Sydney (MASS)*, UNSW (2020); *MKSC Conf*, Univ. of Roma Tre & NYU, Italy (2019); *Marketing Dynamics Conf*, UMD (2019); *CMU-Temple Conf on Digital Marketing and Machine Learning*, CMU (2018); *NSFC-RGC Young Scholars Forum*, Harbin, China (2018)\*; *NUS-USTC Workshop on Data Driven Prescriptive Analytics*, NUS (2018)

#### Multi-Step Matching in Peer-to-Peer Sharing Markets

◦ *China India Insights Conf*, Yale & INSEAD (2018)\*; *INFORMS International Conf*, Taipei (2018); *JMS China MKT Conf*, Jinan Univ. (2017)\*; *MKSC Conf*, Fudan (2016)\*

#### Online Retail in Developing Economies: Drivers of Product Returns

◦ OSU (2019); SZU-SABS, CN (2019); *MSOM Conf*, Dallas (2018)\*; *POMS Conf*, Houston (2018)\*

#### Taxi Drivers' Response to Cancellations and No-shows: . . .

◦ *Quantitative Marketing and Economics Conference*, UChicago (2018)\*

#### The Impact of Response Time in Matching Markets

◦ WHU, CN (2017); RUC, CN (2016); SZU, CN (2016); *JMS China MKT Conf*, JNU, CN (2017)\*; *China MKT International Conf*, UIBE, CN (2017)\*

#### Demand Estimation with Non-Constant Stochastic Variances: . . .

◦ HK PolyU (2017); *Marketing Dynamics Conf*, THU (2015); *MKSC Conf*, JHU (2015)

#### Multi-Feature Product Usage with Learning

◦ *INSEAD Brownbag Seminars* (2013); *Greater-China Conf on Mobile Big Data Marketing*, CUHK (2016); *MKSC Conf*, Istanbul (2013)

#### Why Customers Upgrade Their Reserved Options: . . .

◦ Wharton (2014)\*; *Marketing Dynamics Conf*, Stanford (2014)

#### Human Judgment is Heavy-Tailed: . . .

◦ *Multidisciplinary Decision Science Symposium*, Singapore (2010); *INFORMS Annual Meeting*, UT Austin (2010)

### Discussant

Deep Network Representation Learning for Market Structure Discovery. Yi Yang, Kunpeng Zhang, and P.K. Kannan. *The 14th Bass FORMS*, UT Dallas, 2020

## Invited Speakings in Public and Presentations in Corporates

[Digital Renaissance—Greater Bay Area Cultural Innovation Forum](#), HKU Business School Shenzhen Center, Sep 2023 (*scheduled*).

Roundtable Forum, [ZGC Forum·Regular Activities](#), May 2023 ([Photo 1](#), [Photo 2](#))

Sharing Economy, [Shine Wing International](#), Dec 2021 ([Github Repo](#), [Slides](#))

Asia Pricing & Revenue Management Summit, Aug 2019 ([link](#))

Mining Consumer Financing Data, [Visa Inc.](#), Feb 2019

Online Business and Digital Marketing, [6estates](#), Aug 2018

Mobile Games and Customer Lifetime Value, [Bolegames](#), Dec 2017

Multiple project specific presentations at collaborating firms including [PPzuche](#), [Shopee](#) (NYSE:SE), [Qiushibaik](#), [Mobiuspace](#), [AutoHome](#) (NYSE:ATHM), [Tsinghua XuetaoX](#), [China Distance Education Holdings](#) (NYSE:DL, delisted), among others.

## Teaching

### *At HK PolyU*

MM6XXX, Machine Learning Empowered Business Intelligence (MLE-BI), PhD, 2024-

MM3851, Social Media Marketing, BBA, 2022-

MM5831, Social Media Marketing, Taught Masters, 2022-

### *At NUS*

MKT3761E, Marketing in Social Networks, BBA, 2021

BMS5504, Marketing Analysis and Decision Making, Masters, 2018-2020

MKT3421/MKT3811, Marketing Analysis and Decision Making, BBA, 2015-2020

DBA3702, Descriptive Analytics with R, BBA, 2019,2020

### *Others*

Invited Summer Course on Machine Learning Empowered Business Intelligence (MLE-BI), Masters (15 hours), Xiamen Univ. 2023

Invited Talk on Live Streaming, Social Media Marketing, BBA (2 hours), HKU, 2023

Invited Seminar on Live Streaming, PhD (2 hours), NTU, 2022

## Students

### At HK PolyU

- 2024-, Sijiong REN, co-supervisor (Bicheng YANG, PolyU)
- 2023-, Rui QIN, co-supervisor (Yue Katherine FENG, PolyU)
- 2023-, Yucheng XIE, co-supervisor (Bicheng YANG, PolyU)
- 2023-, Banggang WU, Postdoc Fellow
- 2023-, Baozhen ZHAN (*Collaborative PhD Training Programme*, PolyU), co-supervisor (Gengzhong FENG, Xi'an Jiaotong University)
- 2023-, Yujie WANG (*Dual PhD Degree Programmes*, PolyU), co-supervisor (Zili ZHANG, Harbin Institute of Technology)
- 2023-2024, Yuguang PAN (*Undergraduate Research and Innovation Scheme*, i.e., URIS)
- 2022-, Pengyao SUN (*Hong Kong Postgraduate Fellowship*, i.e., HKPFS), co-supervisor (Yue Katherine FENG, PolyU)

### At NUS

- 2014-2019, Chuang TANG (*President's Graduate Fellowship*), co-supervisor (Junhong CHU, NUS), initial placement (PKU-HSBC).
- 2014-2016, Yue WANG, initial placement (SUSS).

## Grants ( $\approx$ HKD 6M, $\approx$ SGD 200K, and others including CNY and EURO)

- 2023-2026 (PI), GRF, #15505023, HK RGC, HKD 647,395
- 2023-2026 (PI), Incentive Scheme for UTD Journal Publications, HK PolyU Biz, HKD 180,000 (*est.*)
- 2023-2026 (PI), Collaborative Research with World-Leading Research Groups, HK PolyU, HKD 1,167,200; **only 6 projects awarded in total**
- 2023-2025 (PI), HK Scholars Program (conferred on XXX), HKD 461,160
- 2022-2025 (PI), Incentive Scheme for UTD Journal Publications, HK PolyU Biz, HKD 180,000
- 2022-2025 (PI), General Research Fund (GRF), #15509522, Hong Kong Research Grant Council (RGC), HKD 634,500
- 2021-2024 (PI), Start-up Grant, HK PolyU, HKD 500,000
- 2023-2024 (Supervisor), Undergraduate Research and Innovation Scheme (URIS, **a prestigious program**), HK PolyU, HKD 40,000 (conferred on Yuguang PAN, Dept. of EIE)
- 2023-2024 (Supervisor), Collaborative PhD Training Scheme (**competitive**), HK PolyU Biz, HKD 196,600 (conferred on Baozhen ZHAN, Xi'an Jiaotong University)

2022-2025 (Co-Supervisor), Hong Kong PhD Fellowship Scheme (conferred on Pengyao SUN), HKD 1,035,000

2022-2024 (Supervisor), Postdoctoral Fellow Scheme (**competitive**), FB, HK PolyU,  $\approx$  HKD 650,000 (conferred on Banggang WU, PhD, THU, 2018)

2018-2020 (PI), Academic Research Fund (AcRF) Tier 1, MOE, Singapore, SGD 40,000

2017-2018 (Co-PI), Ng Teng Fong Charitable Foundation Research Fund, SGD 33,560

2015-2017 (PI), Humanities and Social Sciences Seed Fund, NUS, SGD 35,000

2014-now (Collaborator), multiple projects funded by NSFC

2014-2017 (PI), Start-up Grant, NUS, SGD 90,000

2013-2014 (Co-PI), INSEAD Research Fund, € 1,800

2012-2012 (PI), Data Grant from Wharton Consumer Analytics Initiative

## Awards

2023, Outstanding Young Researcher, Faculty Prizes, FB, HK PolyU

## Services

### Community

Ad-hoc reviewer: *Marketing Science*, *Management Science*, *Journal of Marketing Research*, *Journal of Marketing*, *Production and Operations Management*, *Journal of Business Research*, *Journal of Service Research*, *Journal of Interactive Marketing*, *Journal of Retailing*, *Journal of Marketing Management*, MSI Alden G. Clayton Proposal Competition

### At HK PolyU

Departmental staffing committee member: 2023.09.01-.

### At NUS

Quant seminar coordinator for the department: 2016.08-2018.07.

PhD committee member for the department: 2019.12-2021.06.

## Industrial Experience

Founder: [analysable.ai](https://analysable.ai), [yunlyzer.com](https://yunlyzer.com), [mle.bi](https://mle.bi)

Fulltime employee at Youdao.com ([NYSE:DAO](https://www.nyse.com/quote/NYSE:DAO), affiliated with Netease, [NASDAQ:NTES](https://www.nasdaq.com/markets/ntes), 2007.03–07).

Fulltime intern/trainee at Microsoft Research Asia ([NASDAQ:MSTF](#), 2006.07–2007.03), International Data Corporation (IDC, affiliated with IDG Capital, 2006.03–06), Infosys ([NYSE:INFY](#), 2005.09–2006.03, [in India](#)), Sohu.com ([NASDAQ:SOHU](#), 2005.07–09), among others.

Juvenile explorations:

- (a) Trader, JPMorgan SG, Proprietary Trading (2008, *cancelled due to global financial crisis*).
- (b) Co-Founder, Yehtes Ltd. (2008, [200814214R](#), *struck off*).