Name Yu Song

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Graduate Studies Overview

I am pursuing Ph.D. in Quantitative Marketing at Stephen M. Ross School of Business, University of Michigan, Ann Arbor. I entered the PhD program in 2020.

Research Interests

My research centers on the economics of digitization, with a particular focus on digital platform design and strategy and their impacts on both consumers and suppliers. I use a combination of field experiments, structural modeling, causal inference, and advanced machine learning techniques to analyze consumer behavior and inform marketing and policy decisions.

Research Projects

- "From Platform Recommendation to Consumer Search: The Impact of Personalization on E-Commerce"
- "Does Carrying News Increase Engagement with Non-News Content on Social Media Platforms?" with Puneet Manchanda
- "How Effective is Suggested Pricing?: Experimental Evidence from an E-Commerce Platform" with Jessica Fong and Puneet Manchanda
- "Customer Feedback and Product Improvement" with Mainak Sarkar and S. Sriram
- "Estimating Treatment Effects from Sequential Price Experiments" with Jessica Fong and Puneet Manchanda

Dissertation

- Title: Digital Platform Information Design and Personalization Strategy
- Committee: Jessica Fong (co-chair), Puneet Manchanda (co-chair), Jun Li, Zach Brown
- Description: Digital platforms face challenges, such as the inability to set prices directly for products and the need to encourage both exploration and engagement with products during the customer journey. To address these issues, platforms have provided suggested pricing to sellers and adopted personalized recommendations and/or search rankings. However, the impact of price suggestions and personalization on consumers, sellers, and platforms remains unclear. In this dissertation, I conduct field experiments and develop a consumer model to evaluate the effects of platform strategies, including platform-suggested pricing and personalized search and recommendations. I find that platform-suggested pricing effectively guides seller pricing while allowing for private information, leading to higher revenue for both sellers and platforms. Moreover, the effectiveness of personalization varies depending on the stage of the customer journey. I find that personalizing search, when platforms gain more information from consumer input at a later stage, while leaving recommendations unpersonalized, enhances both consumer exploration and engagement, and increases platform outcomes.

Selected Abstracts of Research Projects

Does Carrying News Increase Engagement with Non-News Content on Social Media Platforms?

With the rapid growth of online news aggregators, the debate on whether they should compensate news publishers for redistributing their content has intensified. Regulators worldwide are working to develop policies that balance the interests of both parties. However, there is limited understanding of the impact of carrying news on news aggregators, especially on their non-news content. Our research fills this gap by examining the impact of news on non-news user engagement and content generation on Facebook. We utilize a natural experiment—the Facebook Australia news shutdown in 2021—and apply a difference-in-differences approach to quantify this impact. We find that both user engagement and content generation of non-news content on Facebook decreased after the news shutdown. These results suggest that there are positive spillover effects of news on non-news content, and provide timely and relevant insights for regulators, news publishers, social media platforms that carry news, and content creators on social media platforms.

How Effective is Suggested Pricing?: Experimental Evidence from an E-Commerce Platform

Many platforms face the challenge of not being able to directly set prices for products, instead relying on each seller to do so. However, these sellers often lack the experience and information about market conditions to price their products effectively, leading to price inefficiencies. To address this, some platforms offer suggested prices, but the impact of these recommended prices remains uncertain. In this paper, we investigate the effectiveness of platform-suggested prices in influencing sellers' pricing decisions and selling outcomes. In collaboration with an e-commerce platform, we conduct a field experiment that varies whether a seller receives a suggested price, and if so, the suggested price itself. We find that a 30% change in suggested prices leads to a 5% change in listing prices in the same direction. Suggested prices are more influential when pricing is more challenging, such as for new sellers and items in non-new condition. We show, in a subsequent experiment, that these results are likely to generalize to the full equilibrium. Our findings imply that platform-suggested pricing is an effective compromise that guides seller pricing while allowing them to incorporate their private information.

From Platform Recommendation to Consumer Search: The Impact of Personalization on E-Commerce

Digital platforms facilitate product discovery and engagement through two primary channels: platform-driven recommendations and consumer-initiated search. One key lever platforms can use to influence how consumers discover and engage with products is personalization. In this paper, we examine how personalization at different stages of the customer journey impacts consumer behaviors and its consequences for platform outcomes. We leverage experimental evidence from a personalized recommendation experiment and conduct a field experiment on personalized search. We find that personalized recommendations increase revenue from the recommendation channel but reduce consumer search. Personalized search reduces search costs and increases conversions on the search channel. We then develop a consumer search model, endogenizing how consumers initiate a search from the recommendation channel. Through counterfactual simulations, we find that personalizing search while leaving recommendations unpersonalized can balance consumer discovery and engagement, ultimately achieving the highest platform revenues.