Analytical Models in Marketing

Prof. Z. John Zhang
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Office Hours: by appointment
Classroom: JMMH 741
Time: Tuesday 3:30 -6:30 pm

Objectives

This course is designed with three objectives in mind. First, the course provides an in-depth knowledge of many substantive topics in marketing that are amenable to economic modeling and analysis. This knowledge will, hopefully, help you to appreciate and critique some of the major streams of quantitative marketing research, and to develop your own research interests. Second, the course is designed to familiarize you with the mechanics of some workhorse models in marketing so that you can have a hands-on experience with the economic modeling of marketing phenomena. Third, the course will focus on developing your own new and exciting ideas! As you appreciate the details of how scholars navigate through different models for different issues, you will develop a keen sense of how literature on a topic develops and how your unique interest and training can lead you to new, exciting ideas.

Course Requirements

The course will meet once each week for three hours. You are expected to have completed their assigned readings before you come to each class and to be able to contribute to the class in a thoughtful manner. The class participation accounts for 20% of your final grade. There will be 2 homework assignments, all of which involve some mathematical modeling and manipulations. Each homework accounts for 20% of your final grade.

A term project is also required for this course, which accounts for 40% of your final grade. A good project paper is the one that defines clearly a marketing problem amenable to economic modeling, that sets up a reasonable model to address that problem, and that draws some sensible conclusions based on technically correct analyses. I will offer as much help to you as I can, and you are also encouraged to help each other on the project. You will have an opportunity to present your research findings in the last class.
Assigned Readings (*indicates a required reading)

Week 1 (January 15): Principles of Minimum and Maximum Differentiation: Hotelling Models


Week 2 (January 22): Price Discrimination and Targeted Pricing


Week 3 (January 29): Competing Platforms

Week 4 (April 5): Signaling and Screening Models in Marketing


Week 5 (April 12): Omni-Channels and Amazon Marketplace (Store in Store)


Week 6 (April 19): Market Entry Decisions

*Kim, Byungyeon, Oded Koenigsberg and Elie Ofek, “ I Don’t ‘Recall’: The
Decision to Delay Innovation Launch to Avoid Costly Product Failure,” working paper, July 2021.

Week 7 (April 26): Project Presentations