

New York University  
Stern School of Business

**Quantitative Models and Applications in Marketing**  
**fall 2023, Thursdays, 9-12, Tisch 819 (Marketing Conference Room)**  
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## **Overview & Requirements**

The purpose of this doctoral seminar is to acquaint students with the key issues, basic research techniques, and key findings in quantitative models in marketing. Topics covered will include both empirical and analytical models in marketing. For students who are interested in quantitative methods in marketing, this seminar will prepare you to come up with research ideas that will eventually lead to publishable papers and will supply you with the skills and tools to implement your ideas. For students who are interested in other areas, this seminar will provide you a broad survey and the basic understandings of the main research areas associated with quantitative methods in marketing.

A 50-minute presentation should be prepared for presentation in class. Every student should read all the papers assigned to each class in as much depth as possible and be prepared to ask and answer questions in class. You are welcome to discuss the papers with me in the class sessions and after the sessions in which they are presented.

I will also present some of my recent work with Kazu Ishihara, Barak Libai, Xiao Liu, Zekun Liu, and Wei Zhang, and in particular discuss the dilemmas we faced as researchers when formalizing and solving the managerial issue we chose to tackle.

The in-depth reading of assigned papers is the most important requirement in this course. A broad view of the large picture, i.e., understanding the general ideas and the main findings of the papers is not sufficient. The technical details of the papers should also be paid great attention to. Even though you might not be able to understand every detail in a paper due to limited background knowledge, you should show that you have tried your best. The papers are accessible from NYU library website, and I will also share my Dropbox folder with you.

Each student is required to submit and present a research proposal (about ten pages long) by the end of the semester. You can choose a current managerial or academic issue in marketing that uses quantitative methods. The proposal should include three parts: motivation, literature review, and suggested approaches to address the research problem. You are not required to actually solve the research problem or find the results. However, the research problem should have the potential to be converted into a publishable paper in top marketing journals if it is solved in future.

The presentation schedule of the sessions and the presentation of the research proposals will be decided in the second meeting. Presentation and class participation accounts for 60% of the grade, while the research proposal accounts for the rest.

## **Issues & Methods**

Since subject matters are not always mutually exclusive, some of the papers could have been assigned to multiple subject headings. In addition, a couple of papers appear in multiple headings.

### **Issues**

#### **Monetization of Mobile Apps**

Appel, Gil, Barak Libai, Eitan Muller and Roni Shachar (2020), “On the Monetization of Mobile Apps,” *International Journal of Research in Marketing*, 37, 93-107.

Haenlein, Michael, Barak Libai and Eitan Muller (2023), “Satiation and Cross Promotion: Selling and Swapping Users in Mobile Games,” *International Journal of Research on Marketing*, forthcoming.

Ishihara, Masakazu, and Eitan Muller (2020) “Software Piracy and Outsourcing in Two-Sided Markets,” *Quantitative Marketing and Economics*, 18, 61-124.

#### **Network Externalities and Seeding**

Goldenberg, Jacob, Barak Libai and Eitan Muller (2010), “The Chilling Effects of Network Externalities,” *International Journal of Research in Marketing*, 27, 4-15, together with commentaries by Gatignon, Rust and Tellis, and a rejoinder.

Hinz, Oliver, Bernd Skiera, Christian Barrot and Jan Becker (2011), “Seeding Strategies for Viral Marketing: An Empirical Comparison,” *Journal of Marketing*, 75, 55-71.

Libai, Barak, Eitan Muller and Renana Peres (2013), “Decomposing the Value of Word-of-Mouth Seeding Programs: Acceleration vs. Expansion,” *Journal of Marketing Research*, 50, 161-176, and its companion Excel file.

Tucker, Catherine (2008), “Identifying Formal and Informal Influence in Technology Adoption with Network Externalities,” *Management Science*, 54, 2024–2039.

Zervas, Georgios, Davide Proserpio, and John Byers (2017), “The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry,” *Journal of Marketing Research*, 54, 687-705.

#### **Social Contagion**

Berger, Jonah and Eric Schwartz (2011), “What Drives Immediate and Ongoing Word of Mouth?” *Journal of Marketing Research*, 48, 869-880.

Bollinger, Bryan, Kenneth Gillingham, Justin Kirkpatrick, and Steven Sexton (2022), “Visibility and Peer Influence in Durable Good Adoption,” *Marketing Science*, 41, 453-476.

- Chevalier, Judy and Dina Mayzlin (2006), “The Effect of Word of Mouth on Sales: Online Book Reviews,” *Journal of Marketing Research*, 43, 345-354.
- Gardete, Pedro M. (2015), “Social Effects in the In-Flight Marketplace: Characterization and Managerial Implications,” *Journal of Marketing Research*, 52, 360-374.
- Godes, David and Dina Mayzlin (2009), “Firm-Created Word-of-Mouth Communication: Evidence from a Field Test,” *Marketing Science*, 28, 721-739.
- Libai, Barak, Eitan Muller and Verena Schoenmueller (2013), “The XaaS Life Cycle: Buzzers, Adopters, Users, Money,” working paper.
- McShane, Blakeley B., Eric T. Bradlow and Jonah Berger (2012), “Visual Influence and Social Groups,” *Journal of Marketing Research*, 49, 854-871.

## **Methods:**

### **Quasi-Experiments**

- Goldfarb, Avi, Catherine Tucker and Yanwen Wang (2022), “Conducting Research in Marketing with Quasi-Experiments,” *Journal of Marketing*, 86, 1-20.
- Berman, Ron and Ayelet Israeli (2022), “The Value of Descriptive Analytics: Evidence from Online Retailers,” *Marketing Science*, 41, 1074–1096.
- Chevalier, Judy and Dina Mayzlin (2006), “The Effect of Word of Mouth on Sales: Online Book Reviews,” *Journal of Marketing Research*, 43, 345-354.
- Zervas, Georgios, Davide Proserpio, and John Byers (2017), “The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry,” *Journal of Marketing Research*, 54, 687-705.
- Zhang, Weiqing, Zekun Liu, Xiao Liu, and Eitan Muller (2022), “Doubling Revenues by Adopting Livestream Shopping: A Synthetic DiD Approach,” working paper.

## **On Quant topics and methods:**

### **On choice of research topic**

- Lehmann, Donald R., Leigh McAlister and Richard Staelin (2011), “Sophistication in Research in Marketing,” *Journal of Marketing*, 75, 155-165.

### **On quant publications**

- Murthi B.P.S., Ram Rao and Brian Ratchford (2015), “A Descriptive Analysis of Publications in *Marketing Science* over its History,” *Marketing Science*, 34, 779-786.

### **Field experiments**

- Lambrecht, Anja, and Catherine E. Tucker (2018), “Field Experiments,” *Handbook of Marketing Analytics: Methods and Applications in Marketing Management*, 32-51.

**Hazard/survival models**

Chintagunta, Pradeep K. and Xiaojing Dong (2006), "Hazard/Survival Models in Marketing," in *Handbook of Marketing Research*, Rajiv Grover and Marco Vriens (eds.), Thousand Oaks: Sage Publications, 441-454.

**VAR models**

Qin, Duo (2011), "Rise of VAR Modeling Approach," *Journal of Economic Surveys*, 25, 156-174.

**Agent-based models**

Rand, William and Roland T. Rust (2011), "Agent-Based Modeling in Marketing: Guidelines for Rigor," *International Journal of Research in Marketing*, 28, 181-193.