

# **EMPIRICAL MODELS IN MARKETING**

## **(MKTG 956)**

Spring 2021

**Professor Eric T. Bradlow**

**The K.P. Chao Professor, Professor of Marketing, Statistics, Economics and Education**

**Synchronous and Online Learning**

**Friday 10am – 1:00pm**

### **Objectives:**

This seminar-based class is designed to introduce doctoral students to the fundamental empirical models and estimation methods utilized in quantitative academic marketing papers. That is, if this class is successful, you should know the basic purpose, data requirements, mathematical formulation, and equally important the jargon/verbiage, associated with a wide assortment of quantitative marketing models.

### **Outline of Each Class Session:**

Each class session will have a similar structure. We will review two published papers (in some rare cases possibly three), consisting of a “classic marketing paper” that seminally introduced a concept/model to the literature, followed by a more recent updated version of the same concept. In this manner, students will become familiar with the tradition of marketing science, but also gain knowledge of “modern updates” to those papers. Given that only two papers are assigned for each week, a deep and detailed coverage of each paper, with detailed pre-reading on the students’ part, is expected.

### **Course Materials and Website:**

Copies of the papers sit on the course canvas site which can be accessed by logging into (<https://wharton.instructure.com/login>).

**Grading:**

Your grade in the course will consist of three parts.

- (i) Each week, you are required to turn in AT THE BEGINNING OF CLASS, a no more than 5-page summary of the papers from that week. These short summaries will be graded based on your ability to: (i) concisely summarize the papers, (ii) provide a description of opportunities to extend these papers into novel research areas, (iii) your ability to raise critical questions about any aspect of the paper of your choosing, and (iv) most importantly, tie one or more of the papers to a problem that YOU ARE WORKING ON.
- (ii) The reason that we are meeting as a class is for you to share your ideas with others. Come to class prepared to discuss both papers that are assigned.
- (iii) As a final project, I will ask each of you to construct a no more than 30-minute presentation summarizing “Lecture N+1”. That is, if there was one additional lecture, what would it be on? You pick the paper, or two papers, write up a summary of them (20 pages or less), and prepare a presentation on the topic.

**Contact Information**

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## Course Outline

### Session

#### **1. January 22<sup>nd</sup>      Choice Models/Loyalty**

Paper 1: Guadagni, P.M. and Little, J.D.C. (1983), "A Logit Model of Brand Choice Calibrated on Scanner Data", *Marketing Science*, Vol. 2, No. 3, pp 203-238.

Paper 2: Dube, J-P, Hitsch, G, and Rossi, P.E. (2010), "State Dependence and Alternative Explanations for Consumer Inertia", *RAND Journal of Economics*, Bol. 41, No. 3, pp 417-445.

#### **2. January 29<sup>th</sup>      Conjoint Analysis**

Paper 1: Marshall, P. and Bradlow, E.T. (2002), "A Unified Approach to Conjoint Analysis Models", *Journal of the American Statistical Association*, 97:459, pp. 674-682.

Paper 2: Iyengar, R., Jedidi, K, and Kohli, R. (2008), "A Conjoint Approach to Multipart Pricing", *Journal of Marketing Research*, Vol. XLV, pp. 195-210.

#### **3. February 5<sup>th</sup>      Diffusion Models**

Paper 1: Van den Bulte, C. and Lilien, G.L. (1997), "Bias and Systematic Change in the Parameter Estimates of Macro-Level Diffusion Models", *Marketing Science*, Volume 16, Issue 4, pp. 338-353.

Paper 2: Van den Bulte, C. and Joshi, Y.V. (2007), "New Product Diffusion with Influentials and Imitators", *Marketing Science*, Vol. 26, No 3, pp. 400-421.

#### **4. February 12<sup>th</sup>      CLV/Attrition Models**

Paper 1: Schmittlein, D.C., Morrison, D.G. and Colombo, R. (1987), "Counting Your Customers: Who Are They and What Will They Do Next?", *Management Science*, Vol. 33, No. 1, pp. 1-24.

Paper 2: Schweidel, D. A. and Knox, G. (2013), "Incorporating Direct Marketing Activity into Latent Attrition Models," *Marketing Science*, 32 (3), pp. 471-487.

#### **5. February 19<sup>th</sup>      VARX Models**

Paper 1: Dekimpe, M. and Hanssens, D.M. (1999), “Sustained Spending and Persistent Response: A New Look at Long-Term Marketing Profitability”, *Journal of Marketing Research*, Vol. XXXVI, pp. 397-412.

Paper 2: Srinivasan, S., Vanhuele, M. and Pauwels, K. (2010), “Mind-Set metrics in Market Response Models: An Integrative Approach”, *Journal of Marketing Research*, Vol. XLVII, pp. 672-684.

## **6. February 26<sup>th</sup>                      Learning Models**

Paper 1: Erdem, T. and Keane, M.P. (1996), “Decision-Making under Uncertainty: Capturing Dynamic Brand Choice Processes in Turbulent Consumer Goods Markets”, *Marketing Science*, Vol. 15, No. 1, pp. 1-20.

Paper 2: Erdem, T., Keane, M.P., and Sun, B. (2008), “A Dynamic Model of Brand Choice When Price and Advertising Signal Product Quality”, *Marketing Science*, Vol. 27, No. 6, pp. 1111-1125.

## **7. March 5<sup>th</sup>                      Lecture N+1                      Student Presentations**