BUSML 8252 Marketing Models

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Class Schedule and Location
T  Noon–3PM  Fisher 500: 8/22/2017 - 10/3/2017
T  2PM– 5PM  Fisher 500: 10/11/2017 - 12/6/2017 (1st term final on Oct. 11th)

Description
BUSML 8252 will focus on recent developments of quantitative methods in marketing. The course is targeted to students interested in developing a conceptual understanding of quantitative models and an appreciation of the literature in this area. Quantitative models aim to explain consumer and firm behaviors and their relationship to managerial decision making. This course surveys quantitative research in marketing, with a focus on statistical and game-theoretic models. It covers statistical, economic and game-theoretic as well as quantitative psychological models. The main focus is on economic models of choice.

The goal of the course is to a) raise students' awareness of this literature and b) stimulate new research interests. By the end of the course, students should be familiar with the key issues and approaches in quantitative marketing, the strengths of these research streams, and the opportunities to extend them.

Approach
We meet each week for 3-4 hours. Each week is dedicated to one major topic. For each topic, there is an extensive list of related papers. We will spend the majority of time reviewing 3-4 papers in depth. All starred papers (*) and **) have to be carefully read by all students. For suggestions on reading these articles, please see Vithala Rao’s how-to-read tutorial in the Appendix to this syllabus.

Papers marked ‘*’ will be presented by students. From week 1 on, 2-3 students will give presentations on required papers for discussion. We would like students to work in teams of two. Teams and papers will be assigned during the initial class.

Papers marked ‘**’ will be thoroughly discussed in class, yet are not presented by student teams. Non-presenting students are expected to submit a short summary of these papers (*) and **) on Canvas for everyone to read. The first portion of the class may be used for a short review of the
Previous week and a brief discussion on extension. Next, we will have student presentations and classroom discussion on all required papers. The last portion of the class will be spent integrating the days’ readings. The class will be largely discussion oriented.

Overview of Course Requirements
Students are expected to fulfill the following tasks:
- Team presentations of papers indicated on the reading list (the number of presentations may vary with the number of participants, approximately 3-4)
- Written summaries of required papers (due when not presenting)
- Research Proposal (focus on identifying gaps in the literature of your interest and positioning your research question within the literature)

Details of Requirements
Each student is expected to read the required reading to be discussed. In addition, students are expected to pursue additional optional readings as time permits to obtain a broader sense of research in the area. Every week, students will be assigned to write a one page summary of a given paper for the edification of themselves and their peers. Only students not presenting that week will be assigned. These summaries should be distributed to all persons in the class, and include:
- objective of the paper,
- its unique contribution,
- why it is important,
- hypotheses if any,
- assumptions in the model,
- key equations,
- key findings,
- key limitations, and
- opportunities to extend the work.

Also, students have to give short presentations of additional papers.

Each participant will also be required to hand in a one page summary of all the required readings for the week (how they inter-relate, what the key questions are, what issues have been resolved, and what issues remain open). In addition, the write-up should contain answers to each of the questions (A-K) listed in the Appendix on the last page of this syllabus.

Finally, at the end of the semester, students will hand in a research proposal that extends the work of a paper from the reading list. The proposal should outline why the idea is important, how it is different from existing work, and conceptually present a model to implement the idea. The introduction, identification of any gap in the literature and positioning of your research question should receive the most attention for this task.
Overview of topics covered

1. Economic Foundations of Choice Models (Joo)
2. Models of Strategic Market Place Behavior I (Joo)
3. Models of Strategic Market Place Behavior II (Joo)
4. Information Search (Joo)
5. Dynamic Models of Discrete Choice (Joo)
6. Advertising I: Quasi-experiments (Joo)
7. Advertising II: Field-experiments (Joo)
8. Model building and review process (Hardt)
9. Economic, Psychometric, and Descriptive models, Causality (Hardt)
10. Customer Lifetime Value Models (Hardt)
11. Models of Survey Response (Hardt)
13. Individual vs. Aggregate Models of Demand (Hardt)
14. ‘Big Data’ and emerging trends (Hardt)
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Course Schedule (* denotes papers for student presentation, and ** denotes papers for discussion.)

Week 1: Economic Foundations of Choice Models (by Joo)

Required for class:

Recommended:

Week 2: Models of Strategic Market Place Behavior I (by Joo)

Required for class:
  - Including all discussion papers.

Note: If you are not familiar with Berry, Levinsohn, and Pakes (1995), you must read Gordon’s slides on Carmen.

Recommended:
Week 3: Models of Strategic Market Place Behavior II (by Joo)

Required for class:

Recommended:

Week 4: Information Search (by Joo)

Required for class:

Recommended:
Week 5: Dynamic Models of Discrete Choice (by Joo)

Required for class:

Recommended:

Week 6: Advertising I: Quasi-experiments (by Joo)

Required for class:

Recommended:

Week 7: Advertising II: Field-experiments (by Joo)

Required for class:
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Recommended:

**Week 8: Model building and review process**

**Review papers**

**Peer Review process**

**Week 9: Structural and descriptive models, Causality**


**Statistical Models (Stochastic Models, Hazard Models, Time Series, Spatial, Market-level, NEIO)**
- Chintagunta, Pradeep, Tulin Erdem, Peter Rossi, and Michel Wedel (2006), "Structural Modeling in Marketing: Review and Assessment,” 25, 6 (November-December), 604-616 (please also read attached commentaries by Mazzeo and Srinivasan).
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- Chapters 1 and 2 from An Introduction to Statistical Modelling, by Wojtek J Krzanowski, Arnold publishers, 1998.

Analytical Models


Causal Modeling


Week 10: Customer Lifetime Value Models

CLV models
*Fader, Peter S., Bruce G.S. Hardie and Ka Kok Lee (2005), “RFM and CLV: Using Iso-


*Management Science, 54* (1), 100–112.

Gupta, S, D. Hanssens, B. Hardie, W. Kahn, V. Kumar, N. Lin, N. Ravishanker and S. Sriram


Buy-till-die models


Week 11: Models of Survey response

(Non-) response Bias


Scaling, Scale Heterogeneity and Ordinal Data


Cognitive Aspects of Survey Methodology (CASM)


Bayesian Choice Models

Conjoint Practice and Select Issues
- Aribarg, Anocha; Otter, Thomas; Zantedeschi, Daniel; Allenby, Greg M.; Bentley, Taylor; Curry, David J. et al. (2017): Advancing Non-compensatory Choice Models in Marketing. In *Customer Needs and Solutions*

Classical Choice Models
**Week 13: Individual vs aggregate models of Demand**

**Aggregate Choice Models**


**Aggregation Bias**


**Individual/Economic models**

Week 14: ‘Big Data’ and emerging trends

Unstructured Data

Social Media and Networks

Browsing data
Appendix: A Suggested Guide for "Reading" Journal Articles, by Vithala Rao, Cornell

Allow enough time to read the article at least twice. In the first reading, which may be quite superficial, try to get a general idea of the subject matter examined, uniqueness of the approach, and significant results. In the second reading, try to be critical of the concepts, assumptions, models, and application. If necessary, look over the article for a third time to seek a sharper understanding of the article and to evaluate where else the results and models can be applied.

While reading the article try and answer the questions indicated below for yourself. Doing so should significantly enhance your understanding of the research reported and your ability to critique the work.

Note that some published articles may not fit this format.

A. What aspect(s) of the business system is (are) being studied by the author? (E.g., relationship between a firm and competitor, consumer choices over time.)
B. What are some significant research issues addressed in the paper? Reflect upon why they are significant.
C. What specific managerial decisions can be addressed by the results reported in the paper? Are these decisions made better when the recommendations from this research are adopted?
   D1. What is (are) the microunit(s) whose "behavior" is (are) being addressed in the paper?
   D2. State the basic model of the behavior of the microunit in words or as a flow chart. State the premises and assumptions of the model. Identify major constructs.
   D3. State the basic model of the behavior of the microunit in a mathematical form and identify the variables (predictor or criterion) and the parameters (unknown) of the model.
E. Does the paper deal with aggregation of the model across various microunits or segments? If so, how is this aggregation accomplished? If aggregation is not considered, what are the effects of the assumption of homogeneity?
F. How are the variables of the model measured? Are these measures appropriate? What are the sources of data? How reliable are these measures? What are some alternative ways of measuring the variables?
G. How are the parameters of the model estimated? Are the properties of the estimates discussed? (For example, are they unbiased and/or consistent?)
H. Is the empirical application discussed in the papers appropriate? Are the results validated? (This aspect may not be relevant for some articles.)
I. Are the results interpreted well? Are there any alternative explanations of the results?
J. Identify one or two other applications of the basic model?
K. What general conclusions can be drawn? In what ways does this article contribute to (or extend) our understanding of marketing science in the substantive area(s) examined by the article?