

Marketing 712
Data and Analysis for Marketing Decisions
Course Syllabus and Schedule
Spring 2020

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Office Hours: Mondays, 3:15PM-4:15PM, JMHH 770

Recommended Text: Aaker, Kumar, Leone and Day (AKLD)
Marketing Research (12th Ed.), Wiley

Software: JMP, Excel, LIWC (for text analysis)

Course Website: Canvas

Overview and Objectives

Firms have access to detailed data of customers and past marketing actions. Such data may include in-store and online customer transactions, customer surveys as well as prices and advertising. Using real-world applications from various industries, the goal of the course is to familiarize students with several types of managerial problems as well as data sources and techniques, commonly employed in making effective marketing decisions. The course would involve formulating critical managerial problems, developing relevant hypotheses, analyzing data and, most importantly, drawing inferences and telling convincing narratives, with a view of yielding actionable results.

Course Philosophy and Materials

In course has two guiding principles. The first is that marketing analytics are only useful to the extent that they help solve managerial problems. As such, rather than being organized around types of data and analyses, the course is organized around marketing the problems that arise over the course of the product life cycle, and the state-of-the art tools that are available for solving them. The second principle is learning is best achieved by doing. As such, in addition to projects, most classes will involve in-class group exercises where students will have an opportunity to apply concepts and methods discussed in lecture.

While there are no assigned readings per se throughout the course, supplemental readings would

be made available for those who wish to explore topics in greater depth. In addition, Lecture notes and additional handouts will be made available throughout the semester.

Course Software

Most statistical analyses will be demonstrated using Excel or JMP. You are not required to do your assignments in these two software packages. You can use Python, R, SAS, SPSS, or any other language you are comfortable with. In addition, later in the semester there will be assignments that make use of two other software tools: 1) the dictionary-based linguistic analysis package LIWC (Linguistic Inquiry and Word Count), for which a one-month license can be inexpensively be obtained; and 2) ChoiceFlow, a tool for design augmented-reality product choice simulations.

Prerequisites

While there are no formal course pre-requisites, students are assumed to have completed basic coursework in statistics that covered topics in hypothesis testing, analysis of variance, and multiple regression.

Assessment

Your final grade in the course will be based on class participation (case preparation and general contribution), written assignments, and a final examination. The evaluation is as follows:

A. Class Participation	10%
B. Group Project Part A	25%
B. Group Project Part B	25%
C. Final Examination (individual)	40%

The group project (two parts, 50%)

A central outcome of the course will be a two-part group project in which you will be asked to develop a research-back prospectus for a new product or service. The product or service of your choice will serve as a running example through the course, and you will use the array of tools discussed to develop an analytic basis for:

1. Justifying the potential for the concept (sessions 4-5)
2. Optimize product/service design (sessions 7-12)
3. Forecast demand and profits (sessions 14-15)
4. Optimize Advertising spend (sessions 16-17)
5. Optimize Targeting (sessions 18-20)
6. Optimize use of social media (sessions 22-23)

Key dates and deliverables:

March 17: Part A of project. As will be explained in class, this should come in the form of a PowerPoint deck that describes the findings of a conjoint-analysis study of demand for your product/service idea.

April 25-26: Presentations: Each group is expected to prepare a 10-15 minute presentation of their prospectus and, critically, the market research that underlies it

May 10: Final write-up due: This should be a 10-15 page narrative that describes the prospectus and the supporting research. A detailed recommended outline will be provided in class.

The final exam (40%).

On the last day of class we will have an individual final exam. It will be composed of short-answer questions that cover all of the analytic topics covered over the course of the semester.

Class participation

I will evaluate you on both on how well you contribute to class discussions during the lecture portions of class as well as your attendance/participation in the break-out exercises. As is always the case, quality matters more than quantity in class participation; listen to and build on the comments and analyses of your classmates. In order to obtain a grade for class participation you must attend the class sessions and contribute meaningfully.

Group Formation and Electronics

1. **Groups.** Students must organize themselves into groups of 4-5 people in order to do the group assignments on Canvas. This needs to be done no later than the 4th class.
2. **Electronics Policy** Because we will be making active use of analytic tools in class, use of lap-tops, tablets, etc. are permitted.

Schedule of Class Meetings

Lecture #	Date	Topic, Exercises
1.	Jan 15	Course Introduction Breakout exercise: Marketing Research for Start-ups
2.	Jan 21	The value of information Breakout exercise: is a forecasting tool with the price?
3.	Jan 23	Guest Speaker: Paolo von Nuremberg Marketing Research at Bank of America
4.	Jan 28	Product Innovation 1: Qualitative Methods

- Breakout exercise: Focus groups
5. Jan 30 Product Innovation 2: Customer trend analysis
Breakout exercise: Is there a market for online cocktails?
 6. Feb 4 Guest speaker 2: Jonathan Gordon, McKinsey
Data-driven marketing strategy
 7. Feb 6 Concept optimization 1: Basics of conjoint designs
Breakout exercise: Simple main-effect plans
 8. Feb 11 Concept optimization 2: Advance experimental designs
Breakout exercise: Choosing a fraction
 9. Feb 13 Implementation 1: Basics of survey design
Breakout exercise: Designing a conjoint survey in Qualtrics
 10. Feb 18 Implementation 2: Augmented reality surevys
Breakout exercise: Choice Flow
 11. Feb 20 Choice analysis 1: Basics of discrete-choice modeling
Breakout exercise: Multinomial logit analysis
 12. Feb 25 Choice analysis 2: Advanced choice modeling
Breakout exercise: Modeling individual differences
 13. Feb 27 Guest Speaker: Yafit Lez-Aritz
Ethics and research in China Research for Start-ups
 14. March 3 Choice simulations 1
Breakout exercise: Designing choice simulators in Excel
 15. March 5 Choice Simulations 2
Breakout exercise: Profit optimization
 16. March 17 Field experiments 1: Advertising Response
Breakout exercise: did the campaign work?
Group write-up 1 due: product design optimization
 17. March 19 Guest speaker: Elea Feit
Topic: Optimizing A/B Tests
 18. March 24 Tools for segmentation analysis 1
Breakout exercise: Cluster Analysis
 19. March 26 Tools for segmentation analysis 2

- Breakout exercise: Factor Analysis
20. March 31 Social network analysis
Breakout exercise: identifying networks
 21. April 2 Guest speaker: Gil Eyal, CEO, HYPR
Influencer Marketing
 22. April 7 Social media data and text analysis
Breakout exercise: analyzing Tweets with LIWC
 23. April 9 CLV analysis
Breakout exercise: identifying best customers
 24. April 14 Newer trends: Neuroscience and eye tracking
 25. April 16 Project presentations 1
 26. April 21 Project presentations 2
 27. April 23 Course review and wrap-up
 28. April 28 Final Exam (in class)