The Wharton School MKTG 712
University of Pennsylvania Data and Analysis for Marketing Decisions
Professor Raghu Iyengar

Course Syllabus and Schedule

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Recommended Text: Aaker, Kumar, Leone and Day (AKLD)

Marketing Research (11th Ed.), Wiley (**ISBN:** 978-1118156636)

Required Bulkpack: Please obtain. There are cases and assigned readings.

Software: JMP and Excel.

Course Website: Canvas

GroupAssignments: (i) There will be 5 group assignments due during the semester.

(ii) All assignments are due <u>hard-copy in class</u>.

(iii) Group formation is discussed below.

Guest Speakers: I will have 4-6 Guest Speakers during the semester.

Course Syllabus 1 Spring 2016

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.

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Course Materials and Approach

In the course we will use a variety of readings, cases and computer-based exercises. The readings and complete list of cases are contained in the course bulkpack. Lecture notes and additional handouts will be made available throughout the semester. The readings and cases are designed to introduce concepts and principles. Please read the assigned reading and cases before coming to class.

The computer and data-based exercises are designed to give you hands-on experience with making effective marketing decisions.

Course Software

I will demonstrate statistical analyses using Excel or JMP. You are <u>not</u> required to do your assignments in these two software packages; however, I can't promise you quality support if you choose a package that I do not know.

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 Assignments | 45% |
| C. Final Examination (individual) | 45% |

Please note that <u>no late assignments will be accepted</u>. All written work is due on the specified date. The due dates for the assignments are listed on the course schedule. A more detailed outline of the evaluation procedure and requirements for A through C is included at the end of this document. Please refer to this detailed section before preparing for each assignment.

Group Formation

Students must organize themselves into **groups of 3 to 5** people in order to do the group assignments.

Schedule of Class Meetings

| Lecture # | Topic, Readings, Cases |
|-----------------------|--|
| 1 | Course Introduction |
| | READING: Backward Marketing Research |
| 2 | GO / NO GO Decision |
| | Application: Tru Earth Health Foods |
| 3 | Primary Data |
| | Application: Coop |
| 4 | Customer Surveys |
| | READING: Customer Discovery and Validation for Entrepreneurs |
| 5 | Secondary Data |
| 6 | Experiments (A/B Testing, Natural Experiments) |
| 7 | Guest Speaker # 1 |
| 8 | Review of Simple Statistical Tests |
| | READING: "How Optimizely (Almost) Got Me Fired" |
| Pricing and Promotion | 1S |
| 9 | Market Demand - A Primer on Regression Analysis |
| 10 | Application: Quality Kitchen's Meatloaf Mix |
| | READING: Bertini and Koenigsberg "When Customers Help Set Prices" READING: Blattberg and Neslin "Sales Promotions: The Long and Short of it" |
| 11 | Optimal Pricing - Conioint Analysis-I |
| | READING: Ofek and Toubia "Conjoint Analysis: A Do It Yourself Guide" |
| 12 | Conjoint Analysis - 2 |
| | Application: Portland Trailblazers |
| 13 | Guest Speaker # 2 |
| Advertising | |
| 14 | Advertising ROI |
| | |

READING: Lodish et al. "How TV Advertising Works..." READING: Goldfarb and Tucker "Privacy Regulation and Online Advertising" 15 Application: Star Digital: Assessing the Effectiveness of Display Advertising 16 Guest Speaker #3 **DataBase Marketing and CRM** 17 Predictive Modeling: A Primer on Logistic Regression Application: In -Class RFM Prediction 18 Customer Value Analysis – Acquisition and Retention READING: Fader and Hardie "Probability Models for Customer Base Analysis" 19 Guest Speaker # 4 **Market Structure** 20 Segmentation Perceptual Maps -21 Use of Factor Analysis **Online Marketing** 22 Online Advertising, Customer Tracking, Word of Mouth READING: Tucker "The Economics Value of Online Customer Data" READING: Bucklin, Rutz and Trusov "Metrics for the New Internet Marketing Communication Mix" 23 Application: Ford Fiesta 24 Guest Speaker #5 New **Trends** 25 Social Networks READING: Iyengar, Van den Bulte, Eichert, West and Valente "How Social Networks and Opinion Leaders Affect the Adoption of New Products" 26 Mobile Marketing, Geo Targeting, Text Mining

Wrap Up

27 Application: Ford KA

28 Conclusions

Assessment Details

A. Contribution to Class Discussion (10%)

<u>I expect you to be on time to class</u>. Every session of the course will involve interaction in the form of class discussion. I expect each class member to be prepared at all times to comment in any class session. I will "cold call" throughout the ensuing discussion. Please be prepared.

Some class sessions in this course follow a case discussion format. The assigned cases are intended to give you practice to support a decision. Further, the case method provides a vehicle by which to apply the theories, concepts, and analytical techniques discussed in a class or in the reading materials.

Keep in mind that your grade for class participation is not simply a function of the amount of "air time" you take up. I will evaluate you on how well you respond to questions and on how effectively you take into account 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.

B. Group Assignments (45%)

The assignments will be put in Canvas. There will be five assignments, addressing the following five topics:

- (1) Backward Marketing Research 5%
- (2) Survey Design 5%
- (3) Regression 10%
- (4) Conjoint Analysis and Market Segmentation 10%
- (5) Ford KA 15 %

C. Final Examination (45%)

Possible Discussion Questions for Applications

1. TruEarth Healthy Foods: Market Research for a New Product Introduction

- (a) Why was Cucina Fresca pasta successful?
- Using the forecast model for pasta shown in Exhibit 5, what is your forecast of the demand for pizza?Hints: The necessary data is contained in Table B and Exhibit 7.
- (c) There is a significant difference in the "likeliness to buy" results for pasta customers and non-customers. Actual penetration of the Cucina Fresca parent brand may range from 5% to 15%, so sensitivity analysis will be useful
- (d) What can the TruEarth team learn from Exhibit 6 about how consumers view pizza?
- (e) How the pizza concept results (Exhibit 7 and 8) compare with the findings for pasta (Exhibits 3 and 4)?
- (f) Is there a first-mover advantage in pizza similar to pasta?
- (g) How do you interpret the findings in Exhibits 9 and 10 to evaluate interest in pizza?
- (h) Would you launch the pizza?

2. The Coop

- (a) What do you think are the factors that might be causing the decline in sales within store?
- (b) List the pros and cons of each of the different market research proposals. In what ways will each of the market research options potentially provide insight into the problems facing The Coop?
- (c) What research do you think The Coop ought to undertake? Are there any options that you think they should not undertake?
- (d) How would you ensure that insights from the research are translated into marketing actions?

3. Quality Kitchen's Meat Loaf Mix

(a) Prepare for the questions at the end of the reading.

4. Portland Trail Blazers

- (a) Which attribute does conjoint analysis indicate is most important in the overall purchase decision?
- (b) Are the conjoint analysis results useful in making any pricing decisions? What useful information can be gleaned from the research?
- (c) What about the promotional items? Are they worth giving away (free) to the season ticket holders?
- (d) What about the size of the ticket packages? What does conjoint analysis suggest?
- (e) What should management of Portland Trail Blazers do?

5. Star Digital

- (a) Is online advertising effective for Star Digital?
- (b) Is there a frequency effect of advertising on purchase?
- (c) What sites should Star Digital advertise on?

6. Ford Fiesta

- (a) Carefully describe Ford's Marketing Campaign for Fiesta and what are its challenges?
- (b) How is Ford Fiesta performing by metrics reported in the case? Would you use other metrics?
- (b) Are you satisfied with the reach of the campaign?

7. Ford Ka

- (a) Describe the small car market in France. What are the major customer groups and what are their needs?
- (b) Using the data from the customer survey, evaluate if demographic variables separate out "Ka Choosers" and "Ka Non-choosers"

- (c) Goldfarb later claimed to identify four attitudinal segments from the survey: Freedom Lovers, Attention Seekers, Sensible Classics, and No-nonsense neutrals.
 - Using the clustered data provided for this case, illustrate the process used for identifying the attitudinal segments. Answer the following using the customer survey data provided with the Ford Ka Case.
 - (ii) For each cluster, obtain their mean score on all the 62 attitudinal questions.
 - (iii) Name the clusters using the difference in mean scores across the clusters on the attitudinal questions.
 - (iv) Do you agree with Goldfarb's naming of the four attitudinal segments as: Freedom Lovers, Attention Seekers, Sensible Classics, and No-nonsense neutrals?
- (d) What marketing strategy do you suggest for Ford Ka?