

**MARKETING DEPARTMENT
The Wharton School
THE UNIVERSITY OF PENNSYLVANIA**

**MKTG 771/271
MODELS AND TOOLS FOR MARKETING TACTICS
AND STRATEGY**

Course Syllabus and Schedule

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Fall 2007

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PERSPECTIVE

This course surveys quantitative marketing methodology. Emphasis is on the selection and use of models to support managerial decisions concerning marketing strategy. Topics include: analysis of consumer behavior at the individual level; market analysis at the aggregate level; segmentation, targeting, positioning, forecasting methods; new product decisions and decision support systems; and advertising decision models. Special attention will be given to industries that have not received attention traditionally, such as the entertainment industry. The focus of the course is both on **modeling needs** and on the **applications** of analytical approaches and computer-based **models** to solve managerial problems. Hence, we will take the perspectives of models developers and users. The mathematics underlying the models is a necessary part *but* it should not be intimidating. The math is not so much difficult and just requires a willingness to spend *some* time on understanding the models.

COURSE OBJECTIVES

1. To help course participants become better managers/consultants by giving them better tools for analyzing marketing decision problems.
2. To acquaint participants with and help them to understand analytical and computer-based models and techniques which have been used to aid marketing decisions.
3. To give participants critical skills for evaluating new marketing models and quantitative tools about which they may read in the literature, and to enable them to read the literature.
4. To help participants understand marketing problems more clearly through useful frameworks and by analyzing them quantitatively.
5. To produce managers who will not be taken advantage of by some quantitative consultants.

DESIRED COURSE PREREQUISITES

The course will be of particular relevance to students planning careers in marketing and management consulting. The course has been designed for students with some background in quantitative methods as well as some exposure to basic marketing concepts. That is, students who have taken the marketing management course or have an equivalent experience.

ASSIGNED READINGS

Text: *Marketing Engineering: Computer-Assisted Marketing Analysis and Planning* by Lilien and Rangaswamy (LR), Prentice Hall, 2004.

Recommended text on reserve: *Marketing Models*, by Lilien, Kotler, and Moorthy (LKM), Prentice-Hall, 1992 (book is available on reserve at Lippincott Library).

All assigned readings for the course are available in a **Bulk Pack (BP)** at Wharton Reprographics.

Your readings packet contains journal articles, which describe various models and their implementations. In this course you will be required to read them for basic understanding, not for mathematical detail. Beyond this course you will be exposed to models in this form, and the experience gained in digesting the material and filtering it for ideas will be invaluable. Besides, this packet will act as the nucleus of a models reference library when, in the field, you are called upon to solve a quantitative problem.

COURSE GRADING

Your final grade in the course will be based on the following criteria and weights:

Group project and presentation	50%
Individual assignments (to be described)	30%
Class participation/attendance	20%

ASSIGNMENTS

The course will involve two types of assignments: individual take-home assignments and a major group project. The take-home assignments are designed to provide running examples of the various concepts and methods introduced in the course and, secondarily, a means for assessing student progress. ***Late homework assignments will not be accepted.***

The major group project is the primary evaluation tool in the class. Its structure is straightforward: the class will be divided up into teams of ***four-five*** members each. The objective of the project is to develop a new procedure and/or apply one of the methods and models covered in the course to an actual marketing decision problem. This project involves an oral presentation and a term paper, due on **the last class meeting**. When the project is presented to the class (during the final two sessions), the other members of the class will act as if it is the client. The presentation typically consists of a description of the problem, the model(s) or technique(s) in non-mathematical terms, and the team's evaluation of its impact, strengths, and weaknesses for helping the manager. It is strongly recommended that you start thinking about a marketing problem at the very beginning of the course. Feel free to discuss with me any ideas that you may have.

CLASS PARTICIPATION/ATTENDANCE

Class sessions will be devoted to probing, extending, and applying the material in the readings and the cases. It is your responsibility to be prepared for each session as detailed in the course outline. I believe that each of you will benefit from belonging to a “study group” that meets and prepares for each session before coming to class.

Each of you is expected to contribute to class discussions. To do well, you must learn from active participation in presentations and class discussions. **In evaluating class participation, I emphasize the quality of participation.** In particular, I will try to assess how your contributions enhance both the *content* and *process* of a discussion along the following lines:

- Do the comments add to our understanding of the issues or are they frivolous – an attempt to get “air time” that day?
- Do the comments move the discussion along by giving a new perspective?
- Are the comments clear and concise, or obscure and rambling?
- Do the comments reflect a concern for maintaining a constructive and comfortable classroom atmosphere?

If you are unable to attend a particular session, please inform me as early as possible. If you attend, but are unprepared to participate in the day’s discussion, notify me prior to the beginning of the class to avoid any embarrassments.

There will also be a number of guest lecturers who will share perspectives into the practice of modeling. Please note that there may some *changes* in the dates they are scheduled to visit the class.

SOME SUGGESTIONS FOR THE TERM PROJECT

You are free to select any marketing problem that concerns you and appears capable of interesting and useful rigorous model implementation. Think of the problem in connection with an actual company. Your paper should have three parts:

1. Background to the problem.
2. A proposed model and solution to the problem.
3. Evaluation of the model.

For example, you can develop a model of market potential estimate and sales forecast for some market that interests you (e.g., automobiles, coffee, entertainment, toothpaste, banking.) Study pertinent publications for background information about the industry. Your main interest should center on how the company sales are determined and can be forecasted in this market.

Some sample projects completed in recent years:

- Forecasting sales for four PC software applications
- Estimating demand for a new citrus fruit
- Modeling students' choices of music records
- Pricing in the home video industry
- Modeling consumer trade-offs for video home viewing services
- Analyzing the business opportunity for digital music player
- Demand forecast for household on-line services
- Assessing the market share for a new basketball shoe
- Estimating the business opportunity of pay-per-view boxing events
- Introducing a foreign perfume in the U.S. market
- New product launching strategy for a digital syllabus
- Strategic plan for a gym
- Feasibility study for a café.

Your final paper should be typewritten, no longer than **twenty** double-spaced pages in total (excluding exhibits and other attachments).

The term paper will be graded mainly on the following criteria:

1. Degree of developing an operational model for a well-formulated marketing problem;
2. Amount of research, digging, and topic development;
3. Critical and knowledgeable use of concepts and techniques;
4. Quality of paper's organization, clarity, and writing style.

It is highly desirable for you to:

1. Form a project team as early as possible;
2. Decide on your term paper topic as early as possible;
3. Review some old projects available in my office;
4. Get clearance from me;
5. Discuss the progress on your paper with me and my TA during the semester at an office appointment or during the course break.

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Tentative Course Schedule

Date	Session	Topic, Readings, Cases, Assignments	Lilien and Rangaswamy (LR)
		Introduction	
Sept 5	1	<ul style="list-style-type: none"> • Objective of this course • What you will learn in this course • Course administrative issues • Getting to know each other 	
		Marketing Problems and Marketing Models	
		Readings:	
Sept 10	2	<ul style="list-style-type: none"> • “Models and Managers” • “Building Marketing Models that Make Money” • “Implementing and Evaluating SILVERSCREENER”(just skim it) 	Ch.1
Sept 12	3	More on Marketing Problems, Modeling Needs, and Models: The Case of Product /Service Positioning	Ch.4, pp. 117-119
Sept 17	4	Perceptual Maps and Factor Analysis: The Fundamental Idea Reading: <ul style="list-style-type: none"> • “Analyzing Consumer Perceptions” Due: List of Groups Members	Ch.4, pp. 128-136
Sept 19	5	Application/Guest Speaker	
Sept 24	6	Factor Analysis: Interpreting the Output Readings: <ul style="list-style-type: none"> • “Motion Picture Attendance” • “Movie Genres: Toward a Conceptualized Model” 	
Sept 26	7	Preference Models Conjoint Analysis: The Basic Idea Readings: <ul style="list-style-type: none"> • “Conjoint Analysis” 	Ch. 7, pp. 239-247
Oct 1	8	Application/Guest Speaker	
Oct 3	9	Conjoint Analysis: Interpreting the Output Static Market Share Models Readings: “Thirty Years of Conjoint Analysis” “Courtyard by Marriott” Dynamic Market Share Models Due: One page problem definition	Ch. 7, pp. 247-253
Oct 8	10	Application/Guest Speaker	
Oct 10	11	Market Analysis for New Product/Business Opportunities Case: E.T.Phone Home Discussion Issues: Digitron’s Survey Methodology and Forecasting Model Due: Assignment#1	

Date	Session	Topic, Readings, Cases, Assignments	Lilien and Rangaswamy (LR)
Oct 22	12	Forecasting Models: An Overview	
Oct 24	13	Market Penetration Models: The Bass Model <ul style="list-style-type: none"> • Formulation • Use • Estimation Readings: “Four Products: Predicting Diffusion” “Forecasting the Adoption of New Product” “A New Product Growth Model”	Ch. 7, pp. 253-261
Oct 29	14	Application/Guest Speaker	
Oct 31	15	Applications--Preparing the Inputs and Running Factor Analysis, Conjoint Analysis More on the Bass Model its Extensions and Other Dynamic Models Readings: <ul style="list-style-type: none"> • “Diffusion Models: Managerial Applications and Software” • “A Parsimonious Model for Forecasting Gross Box-Office Revenues of Motion Pictures” 	Ch. 7, pp. 261-263
Nov 5	16	Overview: New Products-Related Problems and Models Case: “Johnson Wax: Enhance (A) Case” Due: Assignment#2	Ch. 7, pp. 233-239
Nov 7	17	Application/Guest Speaker	
Nov 12	18	The Assessor Model Decision Trees Models Readings: “The Value of Marketing Research Information” Case: “The Williams Company”	Ch. 7, pp. 263-271
Nov 14	19	Application/Guest Speaker	
Nov 19	20	Expert vs. Decision Support Systems Readings: <ul style="list-style-type: none"> • “A Knowledge-Based System for Advertising Design” • “Developing Marketing Expert Systems” • “Hard Up for a Plot? Get With the Program” 	Ch. 8, pp. 328-335
Nov 21	21	Application/Guest Speaker	
Nov 26	22	Models and Modeling Needs in the Entertainment Industry <ul style="list-style-type: none"> • Readings: “Predicting Financial Success of Motion Pictures” • MOVIEMOD: An Implementable Decision Support System for Pre-release Market Evaluation of Motion Pictures” • “Implementing and Evaluating SilverScreener” 	
Nov 28	23	Due: Review, Summary and Preparation for Projects Presentations Assignment#3	

Date	Session	Topic, Readings, Cases, Assignments	Lilien and Rangaswamy (LR)
Dec 3	24	Projects – Presentations	
Dec 5	25	Projects – Presentations (cont.) Due: Group Projects Reports	

**University of Pennsylvania
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- A1. Models and Managers: The Concept of Decision Calculus
- A2. Building Marketing Models that Make Money
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- A4. Analyzing Consumer Perceptions (HBS# 9-599-110)
- A5. Motion Picture Attendance: A Market Segmentation Approach
- A6. Movie Genres: Toward a Conceptualized Model and Standardized Definitions
- A7. Conjoint Analysis (HBS# 590-059)
- A8. Courtyard by Marriott
- A9. Thirty Years of Conjoint Analysis: Reflections and Prospects
- A10. A New Product Growth Model for Consumer Durables
- A11. Forecasting the Adoption of a New Product (HBS# 9-505-062)
- A12. Diffusion Models: Managerial Applications and Software
- A13. A Parsimonious Model for Forecasting Gross Box Office Revenues of Motion Pictures
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- A16. Developing Marketing Expert Systems: An Application to International Negotiations
- A17. Hard Up for a Plot? Get With the Program
- A18. Predicting Financial Success of Motion Pictures
- A19. MOVIEMOD: An Implementable Decision Support System for Pre-release Market Evaluation of Motion Pictures

Cases:

- C1. E.T. Phone Home Inc.: Forecasting Business Demand (583-121)
- C2. Four Products: Predicting Diffusion
- C3. Johnson Wax: Enhance (A) (583-046)
- C4. Case 1.2: The Williams Company
- C5. Polyphonics HMI: Mixing Music and Math (9-506-009)
- C6. Cinemex (9-898-108)

