NOTE: This syllabus is tentative. Minor changes might be made before September 3.

Administrative details

Professor: Renana Peres, Room: TBD, Tel: TBD
Email: peresren@huji.ac.il
http://renanaperes.homestead.com/

Head TA: TBD

Office Hours: TBD

Web Café Address: TBD

Overview and objectives

A model is a stylized representation of reality that is easier to deal with and explore for a specific purpose. Real life scenarios are complex and contain numerous interactions between multiple elements. However, in specific contexts one can isolate only the relevant factors and describe their mutual influence, in many cases, using mathematical tools. Traditionally, models were used in exact sciences – physics, engineering, biology. During the last decades, tools and methodologies from these domains diffused into marketing research, and are widely used by researchers and practitioners. It is fascinating to see how all complex systems are similar – societies, brain cells, gas molecules in the air, and groups of consumers, all obey a similar regularity.

I invite you to join me to a journey of discovering and exploring the nature of markets and industries. This course will help you to:

- Understand how to describe managerial scenarios in marketing using models, and how to use these models for decision making.
- Use a variety of state-of-the-art analytical and simulation techniques used today in marketing.
- Become familiar with methodologies and results from the marketing research literature.
• Evaluate new marketing models and quantitative tools about which you may read in the literature.

• Understand marketing problems more clearly through useful frameworks and by analyzing them quantitatively.

• Not be taken advantage of by some quantitative consultants.

Target participants

The course is quantitative, and involves hands-on exercises and model development. It 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.

Learning methods

The course uses a combination of lectures, problem sets, class discussions and readings. Each lecture will be opened by presenting a managerial issue related to marketing, and then we will suggest a modeling method to solve this issue. We will thoroughly learn the method, see how it can be applied to the problem, and discuss other problems which could be modeled by this method.

Copies of the lecture notes and data I will be using will be available at the course site. Due to the mathematical nature of the course, there will be much black-board writing, therefore you are warmly advised to take notes during the lectures. If you miss a class you will need to get annotations from a colleague.

You will be asked to read the required material from the reading list below before each class. You are expected to be able to participate in class discussions based on these readings. The lectures will complement the text and will not attempt to cover all points raised in the reading.

Our textbook for the course is:


All assigned readings for the course are available in a Bulk Pack (BP) at Wharton Reprographics. 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. Additional material will be posted on the course Website.

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.
Assessment

1. Class participation 20% (individual)
2. Problem sets 30% (couples)
3. Exam 50% (individual)

Class participation

Regular class participation is expected and will be a part of the grade. Grading class participation is necessarily subjective. Some of the criteria for evaluating effective class participation include:

a. Is the participant prepared? Do their comments show evidence of deep case and readings analysis (vs. stating the facts)?

b. Is the participant a good listener? Are the points made relevant to discussion?

c. Is the participant an effective communicator? Are concepts presented in a concise and convincing fashion?

You should be prepared for all discussions on the problem sets and the reading materials. Be expected to be “cold called”.

Problem sets

You will be given 8-10 problem sets during the course. You should solve and submit the solution a week later. The problem sets exercise the methods learned in class. They are quantitative and involve analytical computations, graphs, data analysis and Excel simulations, but also require your marketing perspective and decision making skills. Problem sets should be submitted individually or in couples, as you wish. Problem sets should be handed in hard copy, typed, at the beginning of the class. Analytical computations (such as equation solving) can be handwritten only if the handwriting is very clear (as per the subjective judgment of the TA).

I look forward to meeting you on the first day of class. If you have any questions regarding the course, please feel free to contact me.
# Outline

<table>
<thead>
<tr>
<th>SESSION</th>
<th>DAY</th>
<th>DATE</th>
<th>Topic, Methods, and Readings</th>
<th>L&amp;R*</th>
</tr>
</thead>
</table>
| 1       | Wed | Sep 3 | **Introduction** –  
- What is modeling?  
- What is it good for? |      |
| 2       | Mon | Sep 8 | **Using models for better business performance**  
- The story of ABB  
Reading: “Models and Managers”  
“Building Marketing Models that Make Money” | Ch. 1 |
| 3       | Wed | Sep 10 | **Product positioning**  
Method: Perceptual maps | Ch. 4 pp. 117-119 |
| 4       | Mon | Sep 15 | **Product positioning**  
Method: Perceptual maps, Factor analysis  
Reading: “Analyzing Consumer Perceptions” | Ch. 4 pp. 128-136 |
| 5       | Wed | Sep 17 | **Using perceptual maps to face competition**  
Method: Geometrical analysis of perceptual maps  
Reading: "Defensive Marketing Strategies" | Ch. 4 |
| 6       | Mon | Sep 22 | **What do customers want in a new product?**  
Method: Conjoint analysis  
Reading: "Conjoint analysis" | Ch. 7, pp. 239-247 |
| 7       | Wed | Sep 24 | **How can one forecast the market share of a new product?**  
Method: Conjoint based market share simulations  
Reading: “Thirty Years of Conjoint Analysis” | Ch. 7, pp. 247-253 |
| 8       | Mon | Sep 29 | **How can one forecast the success of a new product?**  
Method: The ASSESSSOR model | Ch. 7, pp. 263-271 |
| 9       | Wed | Oct 1 | **How can one forecast the success of a new product?**  
Method: Securities Trading of Concepts (STOC) |      |
| 10      | Mon | Oct 6 | **How many product varieties to offer?**  
Method: Optimization  
Reading: "Product line Design" |      |
| 11      | Wed | Oct 8 | **How many prototypes to test?**  
Method: Optimization  
Reading: "Integrated Product Design" |      |
<p>| 12      | Mon | Oct 20 | <strong>Growth of markets of new products</strong> | Ch. 7, pp. |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Oct 22</td>
<td>Wed</td>
<td>Growth of markets of new products</td>
<td>• Estimating the Bass model parameters</td>
<td></td>
</tr>
<tr>
<td>14 Oct 27</td>
<td>Mon</td>
<td>Do innovators help to product diffusion?</td>
<td>• Incorporating heterogeneity into the Bass model</td>
<td>Reading: &quot;Riding the Saddle&quot;</td>
</tr>
<tr>
<td>15 Oct 29</td>
<td>Wed</td>
<td>Did Fax penetrate faster than the CD Rom?</td>
<td>• Penetration of network goods</td>
<td></td>
</tr>
<tr>
<td>16 Nov 3</td>
<td>Mon</td>
<td>Should the firm focus on its stronger markets?</td>
<td>Method: Agent based models - terminology and overview</td>
<td>Reading: &quot;Talk of The Network&quot;</td>
</tr>
<tr>
<td>17 Nov 5</td>
<td>Wed</td>
<td>From density to destiny</td>
<td>Method: Agent based models and information theory</td>
<td>Reading: &quot;From Density to Density&quot;</td>
</tr>
<tr>
<td>18 Nov 10</td>
<td>Mon</td>
<td>How to help our customers choose?</td>
<td>• Online advisors</td>
<td>Method: Bayesian inference</td>
</tr>
<tr>
<td>19 Nov 12</td>
<td>Wed</td>
<td>Customer switching and price promotions</td>
<td>Method: Switching matrices</td>
<td></td>
</tr>
<tr>
<td>20 Nov 17</td>
<td>Mon</td>
<td>What is the value of a customer?</td>
<td>Method: Customer Lifetime Value (CLV)</td>
<td>Reading: &quot;Customers as assets&quot; &quot;Valuing Customers&quot;</td>
</tr>
<tr>
<td>21 Nov 19</td>
<td>Wed</td>
<td>Should a firm focus on acquisition or retention?</td>
<td>Method: Optimization</td>
<td>Reading: &quot;Managing when Customer Equity Matters&quot;</td>
</tr>
<tr>
<td>22 Nov 24</td>
<td>Mon</td>
<td>Course summary</td>
<td>Course summary</td>
<td></td>
</tr>
<tr>
<td>25 Dec 3</td>
<td>Wed</td>
<td>Final exam</td>
<td>Final exam</td>
<td></td>
</tr>
</tbody>
</table>

L&R: Lilien and Rangaswamy.
Readings


Analyzing Consumer Perceptions (HBS# 9-599-110).


Conjoint Analysis (HBS# 9-590-059)


Forecasting the Adoption of a New Product (HBS# 505-062)


The Role of Seeding in Multi-market entry, Libai, Muller and Peres (2005), International Journal of Research in Marketing 22(4) 375-393.


'Listening In' to find and Explore New combinations of Customer Needs, Urban, Glen, and John Hauser (2004), Journal of Marketing 68 (2).


