Marketing Analytics, Big Data and Data Mining

Course Contents

Part I

Introduction to Analytics

Marketing Analytics as an enabler of Marketing Strategy Session

Statistical Foundations of Marketing

- Descriptive Statistics

- Distributions

- General Linear Models

- Optimization

Getting Ready for Analytics

- How to Tell Good From Bad Data Analytics

- Using Stata for Basic Customer Analysis

- Statistics Review

Part II.

Product Analytics

Pricing and Revenue Management

- Point-of-sale Data

- Deciding on the "Right" Pricing Approach, a.k.a Strategic Pricing

- Implementing tools to support pricing strategy

- Managing the prices to meet revenue goals, a.k.a. Tactical Pricing

Assortment Optimization

- Panel and Point-of-Sale data

- Customer meets product

- A retailer's nightmare: shelf-space optimization

- Site-to-store

- Product meets customer

Part III.

Customer Analytics

Customer Lifetime Value

- Loyalty Data

- What is a customer's lifetime?

- How can we predict it?

Market Basket Analysis

- Market-Basket Data

- Product Affinities

Prospecting and Targeting the Right Customers

- Predicting Response with RFM analysis

- Predicting Response with Logistic Regression

- Predicting Response with Neural Networks

- Predicting Response with Decision Trees

Customer Centric Marketing

- Customer Analytics Overview; Quantifying Customer Value
- Assessing Customer Lifetime Value" and Testing

Developing Customers
- Next-Product-To-Buy Models: Learning From Purchases
- Recommendation Systems: Learning From Ratings

Retaining Customers
- Predicting Attrition

Selecting the Right Offers
- Design of Experiments / Multi Variable Testing

Limitations of Customer Analytics
- When Customer Analytics, CRM, and Databases Fail

Part IV.

Channel Analytics

Web Analytics
- Online Data
- Managing the online real estate
- The "cloud"

Marketing Budget Optimization Across Channels.
- Search Engine Marketing versus Search Engine Optimization

Session 9. Managing the Delivery of Analytics Projects

- Client is always right

Textbooks:

1. Marketing Engineering by Gary L. Lilien and Arvind Rangaswamy. Trafford Publishing Revised 2nd edition, ISBN: 978-1412022521
2. Marketing Research: An Applied Orientation by Naresh K. Malhotra. Prentice Hall, 6th edition, ISBN: 978-0136085430
3. Cutting-Edge Marketing Analytics: Real World Cases and Data Sets for Hands On Learning by Rajkumar Venkatesan, Paul Farris, and Ronald T. Wilcox.

Reference:

1. Rocket Science Retailing Is Almost Here – Are You Ready?, M. L. Fisher, A.

Raman, A. S. McClelland, HBR, July - August 2000

2. Fishman, C. (2003), "Which Price is Right?," Fast Company

Supplementary Material:

1) Data, data everywhere, Special report on managing information, Economist, February 27th, 2010
2) Liberatore and Luo: The Analytics Movement, Interfaces, Articles in Advance

Web Sites:

1) http://www.sfbayacm.org/wp/wp-content/uploads/2010/01/amr-hadoop-acm-dm-sig-jan2010.pdf

2) http://cran.r-project.org/doc/contrib/usingR.pdf?bcsi_scan_B318185731EFFDE3=0&bcsi_scan_filename=usingR.pdf

3) http://cran.r-project.org/doc/manuals/R-intro.pdf

Journals:

1. Gupta et al., "Modeling customer lifetime value", Journal of Service Research, Volume 9, No. 2, November 2006
2. Fader, P. and B. Hardie, "Counting Your Customers" the Easy Way: An Alternative to the Pareto/NBD Model Marketing Science