

MKTG 565

Data-driven Marketing (DDM)

Fall 2016

Instructor: Oliver J. Rutz
office: 420 Paccar
phone: 206.221.1856
mail: orutz@uw.edu
office hours: TBD

TA: TBD

Course Description

In today's information economy companies have access to data about markets, products, customers, and much more. When deciding on issues such as pricing, advertising or targeting these data can be very valuable to companies if used correctly. This course will provide you with the tools and methods that will allow you to leverage data to help shape a marketing strategy. We will focus on secondary data, i.e., data that originates from consumer behavior. Examples for secondary data are aggregate market data (e.g., car sales data), disaggregate panel data (e.g., consumer grocery shopping data) and individual level data (e.g., Clickstream data that tracks consumers behavior online). Primary data, on the other hand, are collected specially for the purpose in mind, e.g., through survey or conjoint, and are covered in the Marketing Research class.

The course has **three major** parts

1. **Market** and **Consumer**-level analysis using **aggregate** and **disaggregate** (panel) data. We will cover (weeks 2-4):
 - a. *Demand Models*
 - b. *Promotions and Promotion Profitability*
 - c. *Advertising Response Model*
2. **Customer Relationship Management** (CRM) and **One-to-One** Marketing. We will focus on the **key questions** driving firm strategy in many forward-thinking firms today (weeks 5-8):

- a. If you are starting a new business or a new product line, how ought you to go about *acquiring new customers*?
 - b. Once you have a core base of good customers, how do you go about finding *more* customers like the good customers you have?
 - c. How do you *strengthen the relationships* with your good customers, build their loyalty and make them heavier buyers from you?
 - d. How do you prevent your good customers from leaving you for your competitors?
3. **E-Marketing.** We will focus on how the internet can be used to market products (weeks 8-9):
 - a. *E-mail marketing*
 - b. *Banner Advertising*
 - c. *Paid Search Advertising*
 - d. *Social Media*

Course Approach

Each class session will be a combination of lecture and discussion. To maximize effectiveness, you are expected to come to class prepared to discuss readings and exercises. There is extensive computer use in the course. You will do exercises involving Microsoft Excel, as well as SPSS, a statistical package widely used in data analysis. SPSS is available at a discount to UW graduate students at the University Book Store, and is also available on computers in Foster labs and elsewhere on campus. **IF you do not get the UW version, I cannot guarantee that your version will have the right models built in that we will use (See below for details).**

In your team project you will analyze data using methods we have discussed in class, mostly like using SPSS. Project team members should arrange regular meetings with their group outside of class hours. As this is a skills-oriented class, much of your learning occurs in the process of conducting the team database project and computer exercises.

Textbooks:

There are three optional textbooks.

- Data-Mining: "Data Mining Techniques: For Marketing, Sales, and Customer Support 2nd Edition" by Michael Berry and Gordon Linoff, http://www.amazon.com/Data-Mining-Techniques-Relationship-Management/dp/0470650931/ref=sr_1_1?s=books&ie=UTF8&qid=1417464322&sr=1-

[1&keywords=Data+Mining+Techniques%3A+For+Marketing%2C+Sales%2C+and+Customer+Support](#)

- Data/Analytics: “Profiting from the Data Economy: Understanding the Roles of Consumers, Innovators and Regulators in a Data-Driven World” by David Schweidel http://www.amazon.com/Profiting-Data-Economy-Understanding-Data-Driven/dp/0133819779/ref=asap_B00GSG97O0_1_2?s=books&ie=UTF8&qid=1417447078&sr=1-2
- Data/Analytics: “It's Not the Size of the Data -- It's How You Use It: Smarter Marketing with Analytics and Dashboards” by Koen Pauwels, http://www.amazon.com/Its-Not-Size-Data-How/dp/0814433952/ref=asap_B00IORI3XM_1_1?s=books&ie=UTF8&qid=1417464032&sr=1-1

Software:

We will be using SPSS in this class and you need to get a student version of SPSS or access to the cloud-based version of SPSS via UW (see below for details). You need to access to SPSS before Class 4, which will be a SPSS tutorial.

As a UW student, you can get a license from the UW bookstore or online. You need to get the SPSS 24 **PREMIUM** Grad Pack. It's a little bit complicated to get (i.e., I cannot give you a direct link). Please follow the steps below.

- 1) Go to this page: <http://www.washington.edu/itconnect/wares/uware/spss-21-annual-subscription/>
- 2) Scroll down until you see “Purchase and download online”. Please click this link.
- 3) Log-in with your UW student ID
- 4) Pick SPSS Statistics 24
- 5) Choose your platform (Windows or Mac) and download.
- 6) After downloading, you will need to **authorize** your license. You should have gotten a license authorization code in your order (in RED). This needs to be input using the Authorization Wizard. If it doesn't come up automatically, the wizard will be in the same folder in which you can find SPSS (look for the IBM folder).

Alternatively, you can use the UW cloud-based SPSS via the CSDE cluster. It's free for students use and can be accessed via Remote Desktop. Directions (for both Mac and Windows) can be found here: <https://csde.washington.edu/services/computing/windows/tsaccess.shtml>. This will have SPSS 21 Premium Grad Pack, which has what we need for this class.

Other Materials:

Additional readings in this course consist of a mixture of cases and articles.

- Readings and cases (in course pack (CP) and on Canvas (Can))
- Lecture notes (on Canvas)

Availability for Consultation

While I am in the office most of the time, I cannot guarantee to be available at will for a meeting. So, if you want to meet outside the regular scheduled office hours, please send me an email and we will find a time to meet. Also, I am reachable by e-mail at most times. I strongly encourage you to take advantage of my office hours and especially talk with me about the suitability of particular team projects. I will be happy to work with you to develop your ideas.

Course Components and Grading:

- *Case Discussions and Class Participation (25%):* Two sources of class participation: Discussion of Assigned Readings and Cases. It is essential that each student come prepared to contribute to the learning experience of the class as a whole.
- *Exercises (40%):* There will be 6 exercises that are either team-based or individual. The exercises will require you to apply the ideas, concepts and techniques learned in class. These vary in length and difficulty. Especially in this “number-driven” course a significant part of your learning will be through case write-ups and exercises. Please do not make me fail you for copying from the internet or classmates.
- *Final Project (35):* This is your grand opus and will allow getting your hands dirty on real data.
 - Team membership. Teams will be composed of 4 to 5 people. You may select yourselves into teams so long as you do so by the second class session. During the second class session, I will ask for team membership and assign remaining people into teams on a random basis.
 - Project topics. We will discuss project possibilities in class. You are free to generate your own project ideas, but they must be cleared with me before you invest substantial time on them. The important criteria are that (1) the project is do-able in the time frame you have and (2) it will provide you with a realistic data analysis experience.
 - Project perspective. The idea is to gain some experience working with a real company data. You are welcome to locate customer data from a company you may know of or, if you have difficulty obtaining such a data, we can discuss

alternatives. If necessary, we can provide companies with a signed nondisclosure or confidentiality agreement and disguise the reported information.

- Project deadlines and evaluation:

Project proposal	TBD	15%
Presentation	TBD	35%
Written Report	TBD	50%
Project Total		100%

Meet the deadlines given above. They are critical. You are encouraged to discuss your projects with me at any time during my office hours or by special appointment. Also, you should bring out questions regarding your projects during class sessions when we are discussing relevant related material.

- Presentation of results. You will make an oral presentation of your project to the class. This allows all class members to learn from each of the various projects. The presentations will be graded; please make them as informative as you can in the limited time you will have (about 10-15 minutes for presentation including questions). Powerpoint presentations are the typical mode. The written project report should be as professional as you can make it, including executive summary, and appropriate appendices.

Class participation

Your class participation grade is an increasing function of the quality and frequency of your contributions. Just to make sure: clarifying questions (feel free to ask, though) do not count as class contribution. You should be prepared to discuss a case or case assignments when asked to do so.

The readings are a critical class of the learning and I will ask about them in the beginning of the class, so make sure you a) understand them and b) can summarize the key ideas involved.

Schedule

Session 1 (Thursday 9/29/16): Introduction and Course Overview

Readings:

- NONE

Session 2 (Tuesday 10/04/16): Statistics Review

Readings:

- Canvas (posted): Note “What is a Model?”
- Canvas (posted): Note “Regression Analysis”

Session 3 (Thursday 10/06/16): How to use Data and Statistics – A Case

Readings:

- CP: HBS Case “Pilgrim Bank (A)”
- Canvas: Question for Pilgrim Case
- Canvas: Data for Pilgrim Case
- CP (**download!**): Blattberg & Deighton (1996). “Manage Marketing by the Customer Equity Test” *Harvard Business Review*, July-August
- Bloomberg: <http://www.bloomberg.com/news/articles/1998-09-13/do-you-know-who-your-most-profitable-customers-are>

Session 4 (Tuesday 10/11/16): An Introduction to SPSS

Readings:

- SPSS Base User Guide available at:
<http://www.washington.edu/uware/spss/docs/BaseUserGuide17.0.pdf>
- Canvas: Using SPSS for Customer Database Analysis, with database *PCsUnlimited*

Session 5 (Thursday 10/13/16): Aggregate Data: Pricing&Promotions

Readings:

- Canvas (posted): Chapter 4 “Price” in Lilien, Kotler & Moorthy “Marketing Models”, 1992
- Canvas (posted): Chapter 7 “Promotion” in Lilien, Kotler & Moorthy “Marketing Models”, 1992

Session 6 (Tuesday 10/18/16): Aggregate Data: Advertising

Readings:

- CP (**download!**): Lodish, Abraham, Kalmenson, Livelsbeger, Lubetkin, Richardson & Stevens (1995). "How T.V. Advertising Works: A Meta-Analysis of 389 Real World Split Cable T.V. Advertising Experiments", *Journal of Marketing Research*, Vol. 32, No. 2, 125-139
- Canvas (posted): Chapter 6 "Advertising" in Lilien, Kotler & Moorthy "Marketing Models", 1992

Session 7 (Thursday 10/20/16): Introduction to Customer Centric Marketing

Readings:

- CP (**download!**): Child, Dennis, Gokey, McGuire, Sherman & Singer (1995). "Can Marketing regain the Personal Touch?", *McKinsey Quarterly*, No. 3
- CP (**download!**): Dhar, Ravi & Rashi Glazer (2003). "Hedging Customers," *Harvard Business Review*, May
- Canvas (posted): Booz, Allen & Hamilton (2000). "Customer Lifetime Value"

Session 8 (Tuesday 10/25/16): Customer Lifetime Value (Case Tuscan)

Readings:

- CP: UNC Case "Tuscan Lifestyles: Assessing Customer Lifetime Value"

Session 9 (Thursday 10/27/16): Speaker: John Busby, Marchex

Session 10 (Tuesday 11/01/16): Introduction into Logistic Regression

Readings:

- Canvas (posted): Note "Binary Regression"
- Canvas (posted): Note "Mailing Lists: Processing and Segmentation"

Session 11 (Thursday 11/03/16): Logistic Regression (con't), List Scoring

Readings:

- Canvas (posted): Note "Mailing Lists: Processing and Segmentation" (re-read)
- Canvas (posted): Note "Scoring Models"

Session 12 (Tuesday 11/08/16): Speaker TBD

Session 13 (Thursday 11/10/16): Recency, Frequency and Monetary (RFM) and Lifts & Gains

Readings:

- Middleton Hughes (2009): "RFM – Is it 'Kudzu' or is it Gold?",
<http://www.dbmarketing.com/articles/Art160.htm>
- Sellers & Middleton Hughes (2009): "RFM Migration Analysis",
<http://www.dbmarketing.com/articles/Art123.htm>

Session 14 (Tuesday 11/15/16): Market-basket Analysis & Collaborative Filtering

Readings:

- Amazon's Patent

Session 15 (Thursday 11/17/16): Speaker TBD

Session 16 (Tuesday 11/22/16): Modeling Churn and Thoughts on Loyalty

Readings:

- Canvas (posted): Note "Database Mathematics"
- Canvas (posted): Bellman, Johnson & Lohse (2001). "To Opt-In or Opt-Out? It Depends on the Question", *Communications of the ACM*, Vol. 44, No. 2, February

Session 17 (Tuesday 11/29/16): Search Behavior and Search Engines

Readings:

- http://en.wikipedia.org/wiki/Search_engine_optimization
- http://en.wikipedia.org/wiki/Pay_per_click

Session 18 (Thursday 12/01/16): Social Media

Readings:

- None

Session 19 (Tuesday 12/06/16): Team Presentations

Readings:

- None

Session 20 (Thursday 12/08/16): Team Presentations and Wrap-up

Readings:

- None
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