Customer Satisfaction and Loyalty Analysis

Professor: Dr. Nino Hardt
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Phone: 614-688-2996
Email: hardt.8@osu.edu
Office hours: tba (or by appointment)
Course website: https://carmen.osu.edu/

Class time
7219-020: We 6:00PM - 9:15PM 8/22/2012 - 10/9/2012
7219-0010: MoWe 10:15AM - 11:45AM 10/12/2012 - 12/4/2012

Motivation

Background
Over the last twenty years we have seen a shift from product or brand orientation towards customer orientation within most companies in any industry. The first move in that direction started in the 70s, when companies understood that focusing on transactions instead of customers ignored the advantages of managing a longer relationship with a customer. Eventually, the management of customers to create long-term profitable relationships emerged as a dominating paradigm.

As part of this process, companies became more interested in satisfying “the consumer”. Studies had shown that satisfied consumers exhibit higher retention rates, higher commitment and higher willingness to pay. This paved the way for extensive research on the drivers of satisfaction. Moreover, since the cost to serve a customer decreases with its tenure, long-term relationships with customers are even more appealing to customer management.
In the 90s and 2000s companies became more aware of the heterogeneity of consumers. Limited resources had to be used efficiently to satisfy consumers, thus targeting the most valuable customers first became essential. This gave rise to the concept of Customer Equity, the present value of the entire customer base.

Customer Relationship Management (CRM) was developed as a philosophy to implement this idea of managing long-term profitable relationships. However, in many instances CRM had been misunderstood as a solitary IT system, leading to frustration. The true key to success is customer centric thinking, beyond the implementation of an IT system.

The central concepts for this class are Customer Equity and Customer Lifetime Value, the forward looking value of a relationship with one customer. It accounts for all positive and
negative cash flows with the customer. Different instruments can be used to understand the drivers of satisfaction and loyalty and manage the value of customers.

**Links to this class**

Metrics like customer satisfaction help to explain loyalty and profitability of customers. While satisfaction research is mostly based on surveys, new methods like Sentiment Analysis are just about to emerge. Companies frequently use driver analysis to identify and prioritize features of the products and services. However, the analysis of satisfaction data poses a number of challenges.

In contrast, models of customer loyalty focus on observed behavior, which has proven to be a more effective predictor than survey-based attitudinal data. The emergence of loyalty programs, designed to track individual level purchases, is one indicator of this trend. These models hinge on modeling CLV and its heterogeneity (observed and unobserved heterogeneity). Especially the advent of heterogeneous models has had a profound impact on the field of marketing.

Therefore this course focuses on the concept of CE, modeling CLV and customer retention and the design and analysis of customer satisfaction surveys.

**Course objectives**

This course builds on the idea of managing customers from an equity perspective. It focusses on the analysis of customer satisfaction and loyalty as key issues for successfully managing customer relationships in the long run.

Conceptually, students will be familiar with
- the concept of customers as assets, the idea of Customer Lifetime Value and its relevance for shareholder value
- fundamentals of Customer Relationship Management, which provides the conceptual framework for the systematic analysis of satisfaction and loyalty
- the role of heterogeneity for managing customers

On the application side, participants will learn the following skills:
- Designing customer satisfaction surveys
- Analyzing customer satisfaction data and identifying drivers
- Using retention models to analyze retention and predict CLV
- Using a Data Mining tool to extract sentiment information from textual data

**Course Format**

To achieve the course objectives we will use a combination of lectures, case discussions, articles, and guest speakers. A small project involves the design and analysis of a customer satisfaction survey. Class sessions will be devoted to probing, extending, and applying the material. Analysis of cases will form the basis for applying the concepts in real-world situations.
You are expected to come well prepared for these class discussions. Some of the concepts are so recent that there are no adequate textbook chapters. For weeks 5,6 you should therefore study the corresponding slide decks prior to the lecture. Each Slide deck will be available on Carmen the weekend before class.

**Course project**

The course project will highlight two main challenges of satisfaction analysis: 1) The design of a satisfaction questionnaire and 2) The challenges of analyzing real *non-textbook* data.

The goal of this project is to identify drivers of overall satisfaction and/or intended loyalty with the product/service under study. Overall satisfaction, attribute-level satisfaction and additional information need to be collected.

Due to sample size requirements, teams should be formed. Team sizes will be determined once enrollment is over. Teams should decide on a product/service/brand to be studied. For this task, students can work with a business. However, this is not a requirement. If you wish to study satisfaction with any service of your interest, feel free to do so. The survey should be distributed online, and links can be communicated to students in the departments’ undergraduate classes.

The final deliverable is a report, containing the following elements:

- Introduction and problem definition, description of the business and challenges of that business
- Survey
- Results of data analysis
- Discussion of the results and implications for the business

**Case Studies**

Assignments for the case studies will be posted on Carmen and will include 1-3 questions. Write-ups need to be highly condensed. The first case study will *not* be graded.
# Tentative Schedule

The schedule is tentative until guest speaker dates are confirmed. Schedule updates will be communicated via Carmen and eMail. Depending on guest speaker availability, the order of classes may still change.

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<thead>
<tr>
<th>wk</th>
<th>#</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Principles of CRM</td>
<td>▪ Managing Customer for Profit Chapter Ch. 1</td>
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<td>Customer Equity, Customer Lifetime Value</td>
<td>▪ Kumar/Reinartz Ch. 1</td>
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<td></td>
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<td>Customers as assets</td>
<td>▪ How Companies Learn Your Secrets - NYTimes</td>
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<td>Why satisfaction and loyalty matter</td>
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<td>Discussion</td>
<td>▪ Case Study, please prepare at home</td>
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<td>Case 1: Harrah’s Entertainment</td>
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<td>3</td>
<td>Defining the goal of research</td>
<td>▪ “Defining the marketing research problem” Malthotra Chapter 2</td>
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<td>Focus Groups for satisfaction research</td>
<td>▪ “Questionnaire design” McDaniel, C. and R. Gates Chapter 12</td>
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<td>Survey Design</td>
<td>▪ Iacobucci/Churchill “Focus groups and in-depth interviews”</td>
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<td>Developing Satisfaction Surveys</td>
<td>▪ “Consumers rebel against marketers’ endless surveys”</td>
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<td>Single-item vs. multiple item measurement</td>
<td>▪ Video on NPS (see Carmen)</td>
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<td>4</td>
<td>Survey Design cont’d</td>
<td>▪ Case Study, please prepare at home</td>
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<td>Applied Survey Design using Qualtrics</td>
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<td><em>bring laptop if possible</em></td>
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<td>Case 2: ISS - Driving Profits through Customer Satisfaction</td>
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<td>5</td>
<td>Regression / Statistics Review</td>
<td>▪ “Multiple regression” Moore, D. S., and G. P. McCabe, Ch 11</td>
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<td>Descriptive Statistics, Summarizing data</td>
<td>▪ “Regression analysis” HBS 9-191-117</td>
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<td>▪ Materials on Carmen</td>
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<td></td>
<td>6</td>
<td>Challenges of modeling Satisfaction Data</td>
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|   | **Analyzing Satisfaction Data using SPSS**  
  *bring laptop if possible*  
  Sample datasets will be provided |   |
| 4 | 7 | Behavioral vs attitudinal loyalty  
  Customer Retention  
  Logistic Regression  
  *bring laptop if possible* |
|   |   | ▪ “Logistic regression” Moore, D. S., and G. P. McCabe  
  ▪ The Mismanagement of Loyalty  
  ▪ Zero Defections: Quality Comes to Services |
|   | 8 | RFM framework  
  *bring laptop if possible* |
|   |   | ▪ Kumar/Reinartz Ch. 6,8 |
| 5 | 9 | Stochastic Models of retention  
  Contractual business setting  
  *bring laptop if possible* |
|   |   | ▪ Article: Probability Models for Customer-Base Analysis  
  ▪ See Carmen for additional reading material |
|   | 10 | Stochastic Models of retention (II)  
  Non-Contractual business setting  
  Analysis of Customer Profitability  
  *bring laptop if possible* |
| 6 | 13 | Analysis of textual data  
  *bring laptop if possible* |
|   |   | ▪ See Carmen, important information will be on the slide deck |
|   | 14 | Analysis of textual data (cont’d)  
  *bring laptop if possible* |
| 7 | 11 | Guest Speaker Loyalty Programs |
|   |   | ▪ ‘Beyond a loyalty program: Using loyalty data to create a unified strategy’ |
|   | 12 | Guest Speaker Satisfaction Surveys |
|   |   | ▪ tba |
Project
The satisfaction research project provides you with a learning-by-doing opportunity of putting your knowledge into practice. Companies don’t release their customer satisfaction data for teaching purposes, as these data are considered highly sensitive. Therefore you have to collect your own data. We will assign teams to facilitate data collection (team size will be announced once the number of participants is final).

Teams can choose any brand for this study. Make sure you pick a product/brand/service that is highly accessible, as distribution of questionnaires is easiest among undergraduate students.

The project proposal must be discussed and approved by me in its early stages.

Grading
As required by Fisher policy, grading will be based on relative rather than absolute standards. The average grade in this course will be a 3.5 or lower. A “B” (3.00) average in core courses and overall is required to earn a Fisher MBA degree from The Ohio State University.

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<th>Component</th>
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<td>Project</td>
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<td>Cases</td>
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<td>Exam</td>
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<td>Participation</td>
<td>10%</td>
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100%

Course Materials
Course Pack (Xanedu, includes case studies and text book chapters)
Materials posted on Carmen

SPSS
We will need SPSS for the analysis of customer satisfaction data.
To obtain the SPSS license codes, you need to fill out the following form: http://oit.osu.edu/site_license/Licenses/spsslicensestud.pdf.

Once completed, you can manually walk it over or scan/fax the signed document to the IT Services Desk (Fax: 614-292-3299 or Email: 8help@osu.edu). The IT service desk is located in 025 Central Classrooms.

Once the codes are received, you can download the software on the OCIO Site Licensed Software Downloads website, at http://osusls.osu.edu/. Windows and Mac OS X versions are available. If you use linux, I could look into alternative solutions – just contact me.
Additional information regarding this process and system requirements may be found here: http://oit.osu.edu/site_license/slwin.html#spss

**Rapidminer**
For conducting sentiment analysis we will use Rapidminer, which is available free of charge at http://rapid-i.com.

**Computer**
It is advisable that you work with your own laptop (if available). This way you can use the software within your own working environment. Both programs are available for both Windows and OSX. I will also order the mobile lab as a backup, but again, it is my experience that students work much faster with their own devices.

**Communication**
The best way to contact me outside class is via email. If you come to see me during my office hours, you do not have to make an appointment. If you need to see me at another time, please ask for an appointment via email.
I might use Carmen to contact you. Please make sure that you receive emails sent by the Carmen system.

**Class Participation and Attendance**
To make the learning process more beneficial and enjoyable, each one of you is expected to contribute to class discussions. This includes preparation for class by reading the text and cases, and presenting your opinions or summaries of material covered in class. The basis for class participation is quality, not quantity (hence, talking a lot alone does not get you a high grade for participation!). Attendance is a necessary but not sufficient condition for participation. If you do not actively participate, you will receive a low participation grade even if you attend every class. You are neither expected to have all the right answers in every class, nor to dominate every in-class discussion. Furthermore, it is perfectly okay to disagree with me and your classmates as long as this is done in a civil and constructive manner.

**ACADEMIC INTEGRITY**
Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University’s *Code of Student Conduct* and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must
recognize that failure to follow the rules and guidelines established in the University’s *Code of Student Conduct* and this syllabus may constitute “Academic Misconduct.” The Ohio State University’s *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: “Any activity that tends to compromise the academic integrity of the University, or subvert the educational process.” Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University’s *Code of Student Conduct* is never considered an “excuse” for academic misconduct, so I recommend that you review the *Code of Student Conduct*, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University’s *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

In this course, it is also expected that each student will behave in a manner that is consistent with the Fisher Honor Statement, which reads as follows:

> “As a member of the Fisher College of Business Community, I am personally committed to the highest standards of behavior. Honesty and integrity are the foundations from which I will measure my actions. I will hold myself accountable to adhere to these standards. As a future leader in the community and business environment, I pledge to live by these principles and celebrate those who share these ideals.”

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

**STUDENTS WITH DISABILITIES**

Any student who feels she/he may need an accommodation based on the impact of a disability should contact me privately to discuss specific needs. Please contact the Office for Disability Services at 614-292-3307 in room 150 Pomerene Hall to coordinate reasonable accommodations for students with documented disabilities. It is your responsibility to discuss this with me well in advance of an assignment due date or an exam.