Digital Marketing Analytics (MARK7397)
C.T. Bauer College of Business, University of Houston
(Fall 2019)

This syllabus outlines the important topics covered this semester along with the schedule and grading components. There might be minor changes as we progress though the sessions. Most evaluation dates would not change, unless there are any unanticipated events. You are responsible for keeping up with any updates. Changes in the syllabus will be announced in the class and a copy of the latest syllabus would be found on OneDrive Shared Folders

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Class hours: Tuesday 6:00pm -9:00pm

Instructor: Seshadri Tirunillai

Office hours: Email me to set up a mutually convenient time for an in-person/online meeting [Office location: Melcher Hall 385C] [Official time: Friday 1:30 - 2:30 pm]

Preferred contact: email: seshadri@bauer.uh.edu

[If you need to contact me, use the email. I will try and get back to you as soon as possible. Please do not leave voice messages on my office phone.]

Prerequisites: The focus of the course is on data analysis for digital marketing. There is no prerequisite for the class. However, you have to be comfortable with analyzing data (using Microsoft Excel). It is easier if you have some prior knowledge in statistics (e.g. BZAN 6310) and/or digital marketing.

Course Description and Objectives

This is an introductory graduate course in Digital Marketing Analytics. The course covers some of the important tools and techniques in marketing analytics with a focus on digital marketing applications. This course would be helpful for students who are interested in learning analytic techniques with emphasis on digital marketing topics. The digital marketing topics revolve around the three broad areas popularly referred to as - owned (e.g. company website), paid (e.g. online advertising) and earned media (e.g. social media). The important analytical techniques for managerial decisions in these areas would be emphasized throughout the course. At the end of the course, you are expected to 1. Develop data *wrangling* skills (cleaning data and getting it ready for analysis, e.g. pivot tables, cross-tabulations), 2. become comfortable with data visualization (e.g. charting using appropriate graphs) and 3. become familiar with data mining and statistical methods (e.g. correlation, predictive modeling with regression) that are popularly employed by consultants and managers.

The course is structured around analyzing data using case studies and data exercises. Each case would present managerial problems on a specific topic in digital marketing along with data (mostly in the form of spreadsheets). These cases provide the background to illustrate concepts and issues in digital marketing and also introduce the appropriate data analytic technique to address the question. We would be discussing a case each week. The primary tool for data analysis is Microsoft Excel. Excel is a must-know and generalized number-crunching software, widely adopted in the industry by managers. We might also be using specialized software such as Tableau for visualization and probably Solver (add-in to MS Excel if needed for advanced analytics). You would need a student version of the licenses for some of these. More information about these would be given in the class. At the end of the semester, you are expected to have a strong understanding of the core concepts in digital marketing as well as become proficient in data analysis.

***NOTE*:** I will be only be discussing solutions using Microsoft Excel in the class. In case you are proficient in R or Python and you would like to use it in place of Excel, you are welcome to do so for cases/projects. In this case you will have to submit a working version of your code along with the results/outputs. Please discuss with me the logistics before you begin working on the assignments.

Required Course Material

- **Cases and readings:** Most cases and readings would cost $4.25 each. This packet can be purchased from Harvard Business School Press at https://hbsp.harvard.edu/import/654663654663
- Any additional materials (notes, lecture slides, etc.) will be shared using a OneDrive [University of Houston] folder.
- Tableau Text Book – TBA

Software:

- It is expected that the students have access to Excel (2016, PC or Mac) for data analysis. It is available in the Microsoft Office 365 package through the university.
- Tableau – We will use the educational version, which is free. I will provide the instructions to install or run it in the cloud closer to the Tableau session.

Optional Textbooks and Readings:

The following are not required, but might be helpful for you.

- Digital Analytics for Marketing. Marshall Sponder and Gohar Khan.
- Field Experiments: Design, Analysis and Implementation. Alan Gerber and Donald Green.
- Introduction to Algorithmic Marketing. Ilya Katsov.
- Microsoft Excel 2016 Data Analysis and Business Modeling. Wayne Winston.
- Data Mining for Business Analytics: Concepts, Techniques and Applications [This book has Excel and R versions]

Grading

The following table gives you the tentative components you will be evaluated upon and the corresponding percentage distribution.

Component	**Weight**
Cases - Write ups and Other Deliverables	77%
Short Project (Proposal: 3% + Presentation: 7% + Report: 8%)	18%
Class participation	5%

* The deliverables for cases assignments would typically be a short write-up answering a few questions on the case and excel file(s) (or equivalent) outlining the analysis and results. The break-up for each of the cases and assignments would be provided later in the class.

Letter Grade	Grade Distribution
A	94 and above
A -	90, 91, 92, 93
B+	86, 87, 88, 89
B	82, 83, 84, 85
B-	78, 79, 80, 81
C+	74, 75, 76, 77
C	70, 71, 72, 73
C-	66, 67, 68, 69
D	60, 61, 62, 63, 64, 65
F	59 & Below

Course Organization

The course primarily employs lectures and cases.

Lecture sessions are devoted to discussion of theories, concepts and analytical techniques in digital marketing or data analysis. The sessions are often accompanied by assigned readings. You are expected to read the relevant materials before the session. Assigned readings are not a substitute for the class nor is the class designed to summarize the readings. You will find a lot of materials in lecture that are not there in your readings (and vice-versa).

Case Discussions: All students are expected to come to class ready to discuss each case. At a minimum, you should be able to state the problems, know the factual elements presented in the case and have some thoughts on the possible solutions. It is expected the students also familiarize with the spreadsheet data for each of the cases **before coming** to the class discussion. In case you do not read the cases and become familiar with the data you might not be comfortable in keeping your pace with the discussions. You are not expected to complete all the analysis on your own or get the perfect solutions. I will walk you through the analysis and if time permits in each class, we might have opportunity to work on the cases in-class. Please bring your laptops with the case data. I would give you some questions for each of the cases that you can attempt. These questions are primarily to develop familiarity with the cases. For most cases, you would be required to submit some deliverables both before (a write-up) and after the case discussions

(data analysis). The specific questions and/or instructions for each of the cases would be given later in the class. You are strongly encouraged NOT to miss any case discussion sessions.

Short Project

The short project is intended for you to pursue your specific interests that were not covered in the course. This could be one of the following:

1. An in-depth research on some emerging topic of your interest
2. Study of a data analytic method that might be interesting and relevant for you.
3. Analyzing a dataset (that is openly available or you have access to) using appropriate techniques

The details of the short project would be announced later in the class. Please have an appropriate scope for the project. It must not be too basic nor must be the scope very large and advanced such that you cannot finish it in a month or two.

Tentative Schedule

	Date	Topic
1	8/20//2019	Course logistics, scope and semester plan
2	8/27//2019	**Lecture:** Introduction to Digital Advertising and Marketing Analytics **Readings:** • Textbook Readings: Digital Marketing (Chapters 2 and 21)
3	9/3/2019	**Lecture:** Review of 1. Data Analysis (Statistics) Concepts and 2. Web Analytics **(Case) Discussion 1:** Web Analytics at Quality Alloys, Inc. **Readings:** • Web Analytics at Quality Alloys, Inc. (Case Pack)
4	9/10/2019	**Lecture:** Search Engine Advertising **Readings:** Chapter 11, Search Advertising (eMarketing book) Air France (Case Pack) **(Case) Discussion 2:** Air France
6	9/17//2019	**Lecture:** Measuring Advertising Effectiveness **(Case) Discussion 3:** Measuring ROI on Sponsored Search Ads **Readings:** • Measuring ROI on Sponsored Search Ads (Case Pack) • Chapter 12, Online Advertising (eMarketing book)
7	9/24//2019	**(Lecture:** Display Advertising Effectiveness with Experiments **Case) Discussion 4:** Ad Experiments at Restaurant Grade (Case Pack) **Readings:** • Ad Experiments at Restaurant Grade (Case Pack) • Behavioral Science in the Marketplace (Case Pack)
8	10/1//2019	**(Case) Discussion 5:** Rocket Fuel **Readings:** • Rocket Fuel (Case Pack) **Lecture:** Predictive Analysis – Regression
9	10/8//2019	**Lecture:** • Introduction to Data Visualization • Introduction to Tableau **(Exercises) Discussion 6:** Regression Exercise 1 **Readings:**(TBA)
10	10/15//2019	**Lecture:** Data Visualization and Analytics with Tableau **(Exercises) Discussion 7:** Data Visualization with Tableau 1 **Readings:**(TBA)

	Date	Topic
11	10/22//2019	**Lecture:** Social Media Analytics **(Exercises) Discussion 8** Data Visualization with Tableau 2 **Readings:** • (Optional) Can you measure the ROI on Social Media
12	10/29//2019	**Lecture:** Social Media Intelligence **(Exercises) Discussion 9:** Data Visualization with Tableau 3 **Readings:** • Readings in Social Media Analysis (TBA)
13	11/5//2019	**Lecture:** "Big Data" and Customer Privacy **(Case) Discussion 10:** Eyeo's AdBlock Plus **Readings:** • Eyeo's Ad Block Plus (Case Pack)
14	11/12//2019	**Meetings for project**
15	11/19//2019	Presentations
15	11/26//2019	Presentations and Course Review

Tentative Distribution of the Case Points

1	**(Case) Discussion 1:** Analysis Concepts with the Quality Alloy Case	10
2	**(Case) Discussion 2:** Air France	10
3	**(Case) Discussion 3:** Measuring ROI on Sponsored Search Ads (Bazaar.com)	6
4	**(Case) Discussion 4:** Display Advertising Effectiveness with Experiments -Restaurant Grade**s**	6
5	**(Case) Discussion 5:** Rocket Fuel	10
6	**(Exercises) Discussion 6:** Regression Exercise 1	8
7	**(Exercises) Discussion 7:** Data Visualization with Tableau 1	10
8	**(Exercises) Discussion 8** Data Visualization with Tableau 2	6
9	**(Exercises) Discussion 9:** Data Visualization with Tableau 3	6
10	**(Case) Discussion 10:** Eyeo's AdBlock Plus	5
	TOTAL	77

- The cases/exercises have to be submitted on the *Friday after the session* we discuss the case. For example, the first case (Web Alloy) has to be submitted for

evaluation on 5th September. It is highly recommended that you start working on the case atleast a week before we discuss it in the class.

General Class Conduct

These are the expected conduct for maintaining the decorum of the class:

- Use of laptops (or other gadgets) is fine for note taking, but not for activities (listed above) or any other activity that might distract not only you, but also your neighbors from participating in the class.
- Please not to undertake any online activities (e.g. texting/chatting/using social networking sites etc.) unrelated to the class. Please also avoid checking/ responding to emails in the class. It will distract you as well as others, defeating the purpose of the class.
- Please avoid walking in late or walking out early – if you need to do so, enter/exit do so with minimal disruption to the fellow students.

Academic Honesty Policy

The University of Houston Academic Honesty Policy is strictly enforced by the C.T. Bauer College of Business. No violations of this policy will be tolerated in this course. A discussion of the policy is included in the University of Houston Student Handbook which can be downloaded at http://www.uh.edu/provost/policies/honesty/ . Students are expected to be familiar with this policy.

Special Needs

The C. T. Bauer College of Business would like to help students who have disabilities achieve their highest potential. To this end, in order to receive academic accommodations, students must register with the Center for Students with Disabilities (CSD) (telephone 713-743-5400), and present approved accommodation documentation to their instructors in a timely manner.

Availability of Counseling Services

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. Also, there is no appointment necessary for the "Let's Talk" program, which is a drop-in consultation service at convenient locations and hours around campus. http://www.uh.edu/caps/outreach/lets_talk.html