LGST 242x/642x
Big Data, Big Responsibilities:
The Law and Ethics of Business Analytics
Spring 2018

Overview
Significant technologies always have unintended consequences, and their effects are never neutral. A world of ubiquitous data, subject to ever more sophisticated collection, aggregation, analysis, and use, creates massive opportunities for both financial gain and social good. It also creates dangers in areas such as privacy and discrimination, as well as simple hubris about the effectiveness of management by algorithm. This course introduces students to the legal, policy, and ethical dimensions of big data, predictive analytics, and related techniques. It then examines responses—both private and governmental—that may be employed to address these concerns.

Instructor
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Learning Objectives
Good data-driven decision-making means not just generating solutions, but understanding how to use them. Some of the most sophisticated firms in terms of data science expertise have already gotten into trouble over concerns about privacy, security, manipulation, and discrimination. Failure to anticipate such issues can result in ethical lapses, public relations disasters, regulatory sanctions, and even legal liability. My goal is to help you develop the skills to use analytics in the most responsible way, while remaining focused on your business objectives. After completion of the course, you should be able to:

1. Identify where algorithms depend on human judgments or assumptions.
2. Describe legal rules and regulatory obligations, in the U.S. and elsewhere, that may apply to business analytics.
3. Evaluate claims that applications of analytics raise ethical or public policy concerns.
4. Develop thoughtful responses to concerns about the uses of data science.
5. After graduation from Wharton, don’t destroy the world, crash the economy, go to jail, or all of the above. (Money-back guarantee not available.)
The course is non-quantitative, although a basic familiarity with data science techniques is assumed. Many of the questions it covers do not have simple answers, either because concepts such as privacy cannot be reduced to binary choices, or because the scenarios involved are still unfolding. A major goal of the course is to help you develop your own well-grounded viewpoints.

**Materials**

All readings are contained in a coursepack available through Study.net, or are available for free online at the hyperlinks provided in this syllabus.

**Course Requirements and Grading**

**Exam (40%)**
There will be one closed-book exam, which will be administered during the final session. It will test your comprehension of the required readings and the concepts developed in class.

**Group Activities (30%)**
We will do a mock trial group negotiation. You will take on roles and attempt to develop a consensus to address concerns about business analytics. You will receive credit as follows:
- Individual prep sheets (20%)
- Group negotiation proposal, or explanation of your failure to reach consensus (10%)

**Participation (30%)**
This is an interactive course. Most class sessions involve significant interactivity, such as discussion, group activities, and negotiations.

For each class, you will receive a score of 0 (absent, or no active participation) to 3 (significant contributions demonstrating unusual levels of preparation or thoughtfulness). I realize there are understandable reasons students miss class. There is no penalty per se for missing up to three sessions. However, four or five unexcused absences (meaning arriving or leaving more than fifteen minutes from the start/end of the class) will each result in a one-step reduction in your final grade (e.g. A- to B+). Being absent from six or more classes will result in failing the course.

**Classroom Expectations and Participation**

Participation is your responsibility. Prepare for class. Raise your hand, and make comments that show engagement with the readings and course concepts. Don’t be afraid to make a mistake or take a stand. That's how learning happens.

The course is interactive, so it won’t be as successful (nor will you) if students are frequently absent. That being said, we all face tradeoffs in life. I recognize that students will sometimes miss class for understandable but unexcused reasons such as recruiting. Your grade will reflect your overall level of participation; active, high-quality contributions may counterbalance an occasional absence.

There is no way to “make up” a class. However, you may miss (or show up late by more than 10 minutes) one class session during the quarter for any reason, without penalty.
If you cannot attend a class, I encourage you to get notes from another student and/or watch the class recording. Video recordings of all sessions will be available on Canvas. You don't need to tell me in advance, or contact me afterwards to explain an un-excused absence (i.e., not involving a medical issue, obligatory university/athletic trip, or family/personal emergency.) If you believe your absence should be excused, please email me an explanation and, where possible, documentation.

**Policy on Devices**

This class will observe the Wharton MBA Program’s policy on student use of electronic devices in the classroom. Violations will result in deductions to the class participation aspect of the course grade. Specifically:

- Phones must be turned off and put away.
- The use of laptops and tablets is not allowed unless pre-approved for educational purposes, or specifically authorized in class by the instructor.

**Instructor Bio**

Kevin Werbach is an Associate Professor in the Legal Studies and Business Ethics department. His research focuses on Internet policy, big data, and blockchain technologies. He was Counsel for New Technology Policy at the Federal Communications Commission during the Clinton Administration, served on the Obama Administration's Presidential Transition Team, and created one of the first massively open online courses (MOOCs) on the Coursera platform.

**Syllabus**

All readings are found in the coursepack, and hyperlinks are provided below to online versions. Where there are questions listed under a reading, be prepared to address them in class discussion.

With the exception of the first and last week, Monday’s class will generally introduce substantive and legal concepts through lecture and discussion. Wednesday’s class will be built around interactive activities to apply and integrate your knowledge.

1. **THE PROMISE AND THE PERIL**

   How might data science change the relationships among firms, customers, employees, other firms, and governments? What are some of the legal or ethical concerns that may arise?

   - What are the key innovations of big data and business analytics?

   - Algorithms are cool! Why should we worry if they rule the world?
2. “IT’S JUST MATH”
Algorithms rely on human decisions about how data are collected, analyzed, and used. Failure to appreciate this can lead to problems.

- What practical problems arise from the three paradoxes the authors identify?

Zeynep Tufekci, The Real Bias Built In at Facebook, N.Y. Times, May 19, 2016
- Why was Facebook criticized for its Trending Topics?
- Why does Tufekci say that algorithms are not neutral? What does that even mean?
- If algorithms are inherently biased, does that undermine the value of analytics in business?

3. LIMITS OF ANALYTICS
The first step to responsible use of analytics is to appreciate its limitations and known statistical issues.

Gary Marcus & Ernest Davis, 8 (No, 9!) Problems with Big Data, N.Y. Times, April 6, 2014
- What are some of the common themes in the authors’ list of problems?

- Why was Google Flu Trends so accurate initially, and not subsequently?
- Should the failure of Google Flu make us skeptical about the potential of business analytics?

4. DATA PROTECTION IN A BIG DATA WORLD
Are there limits on how data should be collected, used, and shared?

- What is privacy? Why is it important?
- How does big data change the way we think about privacy?

Solon Barocas and Helen Nissenbaum, Big Data’s End Run Around Procedural Privacy Protections, Communications of the ACM (November 2014)
- What do the authors believe that transparency and consent are insufficient?

Elizabeth Weise and Jessica Guynn, Uber Tracking Raises Privacy Concerns, USA Today, Nov. 19, 2014
- Do you find any of Uber’s actions described in this article troubling?

5. PRIVACY LAW
Privacy is the subject of many legal and regulatory regimes in the U.S. and elsewhere. How well do those rules apply to big data and business analytics?

The White House, Big Data: Seizing Opportunities, Preserving Values (2014), pp. 15-21
• What are the key elements of the U.S. approach to privacy law?
• Do you think the U.S. legal framework is effective in general? Will it be effective for the novel challenges of big data and business analytics?

Paul M. Schwartz, Data Protection Law and the Ethical Use of Analytics, Centre for Information Policy Leadership (2010), pp. 18-26
• How does the European approach to privacy differ from the U.S.?
• How should companies respond to the legal requirements around privacy?

Kiel Brennan-Marquez, The Supreme Court's Big Data Problem, Points, June 29, 2016
• How is the growth of business analytics changing the legal boundaries of privacy?

6. GUEST LECTURE TBA

7. PERILS OF PREDICTION
If sensitive attributes can be inferred from other data, does it even make sense to talk about privacy any more?

• How does Target analyze customer data to make inferences about customers?
• In your opinion, is the Target system an intrusion on privacy? Why or why not?
• Do Target’s actions violate any legal rules?
• Do Target’s actions violate any ethical norms?
• Should Target do anything differently?

8. INFLUENCING USERS
To what extent does analysis itself influence behavior? And what are the limits on using analytics not merely to understand and predict customer actions, but to shape them?

• What was Facebook trying to achieve in its emotional contagion study?
• Why were Facebook’s actions controversial?
• What is “algorithmic gatekeeping”? Why does Tufekci believe it is a concern?

Tristan Harris, How Technology Hijacks People’s Minds—from a Magician and Google’s Design Ethicist, Medium, May 18, 2016
• Why are the techniques that Harris describes effective?
• Do you share Harris’ concerns about the addictive character of such approaches?

Rebecca Rosen, Is This the Grossest Advertising Strategy of All Time?, The Atlantic, October 3, 2013
• What exactly does the author find new and objectionable about this marketing approach?
9. ALGORITHMIC MARKET POWER AND INEQUALITY
Should we be concerned about algorithmic monopolies or other anti-competitive practices? And what about those left out by the big data revolution?

- Do you find algorithmic pricing practices troubling?

- How do online intermediaries, in Calo’s account, engage in forms of manipulation?

- How are the author’s concerns about digital exclusion different from, and similar to, the issues of digital discrimination?

10. ALGORITHMIC BIAS
When is a differential effect a neutral reflection of the state of the world, and when is it tantamount to illegitimate discrimination? The use of analytics has the potential both to counteract and to reinforce systematic biases.

- What are the ways that the authors believe big data can produce discrimination?

- What did the services the author describes do wrong?

11. BUSINESS ANALYTICS ON TRIAL
Based on a “ripped from the headlines” episode of a TV drama, we’ll act out a realistic scenario of alleged algorithmic discrimination

Watch the “Good Wife” video segment on the Canvas site.

Prepare to assume your pre-assigned role in a mock trial.

12. MOVING FORWARD
Are there viable responses to the challenges we’ve discussed in the course?

- What is “soft regulation” and how is it different from ordinary regulation?

- How is the “due process” approach different from existing laws we’ve discussed?
• Will this approach be effective?


• How effective do you think the audit method described in the paper can be at identifying and helping to address problems with algorithms?

13. STAKEHOLDER NEGOTIATION EXERCISE

You will be assigned a role in a group negotiation to identify industry commitments and/or legislative changes to address concerns about the dangers of unchecked use of business analytics.

Submit pre-negotiation worksheet for your role

14. EXAM AND COURSE WRAP-UP

The closed-book examination will be done in class, and will cover all prior sessions.