Data Policy & Innovation

An introduction to emerging trends in data, technology, and their applications to policy and governance.

Syllabus | Winter 2017

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Course Description

An introduction to emerging trends in data, technology, and their applications to policy and governance.

When you look up the weather forecast, use an app to plan your commute, or check an online ratings site to find a local doctor, you're using open data. Open data - free public data, typically provided by governments, that anyone can use without restrictions - has become an integral part of our daily lives. It provides citizens, businesses, and nonprofits with critical information to make more informed decisions. This data, along with many other emerging technologies, is changing the way citizens make decisions, projects are developed and measured, policies are created, and how we are governed.

This course provides an overview of innovative uses of data and how they shape our decisions. Economic, political, social, and legal perspectives will be introduced through both domestic and international project lenses. The course will teach students how to:

i. Understand the growing data ecosystem and key resources available,
ii. Identify opportunities for innovation by utilizing data or new technologies, and
iii. Apply data-driven techniques to current social innovation projects.

Through a combination of class discussions, case studies, articles, and real-world projects, students will gain deep insights into how to utilize data in current work and projects.

Key US and international initiatives that will be examined throughout the class include: the official U.S. government data site providing increased public access to federal government datasets, the World Bank's development data portal, and the United Nations Global Partnership for Sustainable Development. The instructor will use firsthand knowledge working on these initiatives to help students navigate these institutions to find the innovation spaces within them.

Course Project

The course project will teach students how to utilize various types of data to improve the outcomes of social innovation projects. Students, in small teams of two to three, will choose a new or existing project and develop a strategy for integrating data and/or visualization techniques. Teams are responsible for researching, designing their project and delivering a pitch of their proposal including a brief slide deck and written summary during session 4.

After the last session, teams will also submit a separate feasibility analysis and implementation plan for their proposal reviewing the type of data they have used, pros and cons of the data and application, the social innovation impact, and policy implications. Teams will be asked to evaluate the expected value-add of the proposal against the costs required.

Course Dates

The course will be held on two full Fridays over the 2017 January term. The course will be broken into four half-day sessions:

Session 1:	1/6 from 9:00AM to 12:00PM
Session 2:	1/6 from 1:30PM to 5:00PM
Session 3:	1/20 from 9:00AM to 12:00PM
Session 4:	1/20 from 1:30PM to 5:00PM

Attendance is required for all four sessions to receive course credit, unless prior approval was obtained for a missed session.

Pre-Course Work

To make the most of the four sessions, students are required to do pre-course work to begin the first session with informed discussion questions and a basic understanding of the subject matter.

Readings:

- Stanford Social Innovation Review – Big Data for Social Innovation: http://ssir.org/articles/entry/big_data_for_social_innovation
- NPR – The Big Data Revolution: http://www.npr.org/2013/03/07/173176488/the-big-data-revolution-how-number-crunchers-can-predict-our-lives
- Open Data Now, Gurin – Chapter 1: An Opportunity as Big as the Web: http://www.opendatanow.com/wp-content/uploads/2013/12/Open-Data-Now-Advanced-Sample-Chapter.pdf
- McKinsey Global Institute – Unlocking innovation and performance with liquid information: http://www.mckinsey.com/business-functions/business-technology/our-insights/open-data-unlocking-innovation-and-performance-with-liquid-information
- The Guardian – Empowering Farmers Through Mobile Communication in West Africa https://www.theguardian.com/sustainable-business/2014/oct/22/empowering-farmers-through-mobile-communication-in-west-africa
- BBC – New York Blogger Reveals Parking Ticket Errors: http://www.bbc.com/news/technology-36275930
- Stanford Social Innovation Review – Data as a Means, Not an End: http://ssir.org/articles/entry/data_as_a_means_not_an_end_a_brief_case_study
- Open Data Impact Map, the Center for Open Data Enterprise (read your choice of five use cases): http://opendataimpactmap.org/usecases.html

Assignments:

- Write a 2 to 3-page memo (double-spaced, 10 pt. font) discussing the major opportunities to utilize data for social innovation. These opportunities should be based on your

experiences in work or real-world projects and the pre-course readings. Also include a list of three current social innovation projects that you would like to focus on for this class with brief descriptions of each. These projects may be new or something that you are already working on for other classes or work.

Grading

Course grades will be calculated based on overall class participation and pre-session preparation, a pitch deck and proposal, and a feasibility assessment and implementation plan.

Description	Grade %	Due Date
Participation & Preparation Active participation in teams and during class discussions and pre-course work	**20%**	**N/A**
Pitch Deck & Proposal 5-minute pitch deck with an accompanying 2-page written summary of proposal (double-spaced, 10 pt. font)	**30%**	**Jan. 13**
Feasibility Assessment & Implementation Plan: 6 to 8-page paper critically assessing the proposal's feasibility through technical, economic, legal, and operational considerations. (double-spaced, 10 pt. font)	**50%**	**Feb. 1**

Schedule

Session 1 – Data Driven Society

Description: The first session provides students with an introduction to the prevalence of tech and data in innovation through case studies and ongoing projects including public, private, and nonprofit examples. Major technological advances powered by data will be reviewed to demonstrate the unprecedented growth of data-driven social innovation.

This session delves into the policy applications of information and introduces the various types of data, how they relate, and the pros and cons of each type. Specific topics will include big data, open government data, privately-held, crowd-sourced/citizen generated data.

In addition, the first session will review the current policies and institutions that govern information and support technological advances from both domestic and international perspectives. Students will discuss how these institutions help or hinder the growth of social innovation.

Course Project Activity: Brainstorm three potential social innovation projects for data utilization using the framework of the Value Proposition Canvas. Students should identify areas where data could role to streamline processes, improve outcomes, or develop measurement guidelines.

Session 2 – Finding, Accessing, and Utilizing Relevant Data

Description: Session 2 explores the various sources for finding and accessing relevant types of information for your project or initiative. Specific topics reviewed will include information usability and relevance, navigating data portals, and accessing information. The following data portals will we reviewed and discussed:

- U.S. Government Data Portal – http://Data.gov
- NYC Data Portal - https://nycopendata.socrata.com/
- World Bank Data http://Data.WorldBank.org

After reviewing various data sources and their pros and cons for use, we will delve into audience/customer segmentation to assess opportunities for maximizing the impact of specific types of data.

Session 2 will also review several techniques for data analysis, visualization, and integration. Presentation of information will be a major focus for both the quality and quantity of data utilized.

Course Project Activity: Teams will explore and identify potential data sources that address various elements of their social innovation projects. Each data source must be assessed for its relevance and impact on project outcomes. Teams will also investigate and test various tools for data analysis, integration, and visualization based on the needs of the selected social innovation project. Each team will begin preparing their pitch deck and written summary for presentation in session 4.

Session 3 – Policy Considerations

Description: Session 3 discusses the major policy considerations for the prioritization, use, and management of various types of information. Key considerations to be reviewed will include information life cycle, privacy, quality, interoperability and standards, and accessibility. The various environmental factors that influence data-related social innovation and how they affect current initiatives will be discussed.

Course Project Activity: Based on the lecture and class discussion, teams will assess their project data's reliability, quality, and long-term accessibility. Additional data sources may be required to address potential policy related concerns.

Session 4 – Implementation & Presentations

Description: In the final session, the feasibility of projects will be discussed by reviewing the technical, economic, legal, and operational aspects of the data-driven social innovation. This will also include how teams have integrated data for improved outcomes or decision making with a before and after comparison. Time, money, and resource savings will also be discussed and the trade-offs for each in terms of implementation.

Course Project Assignment: Teams will present their pitch deck to the class summarizing the data-driven social innovation and how their utilization of data improves project-outcomes. Based on class feedback and additional readings, teams will develop their feasibility assessment and implementation plan to be submitted by February 1st.

Articles/Resources:

- Harvard Business Review – The Ethics Conversation We're Not Having About Data: https://hbr.org/2015/11/the-ethics-conversation-were-not-having-about-data
- Sunlight Foundation – Guidelines for Open Data Policies: http://assets.sunlightfoundation.com/policy/Open%20Data%20Policy%20Guidelines/OpenDataGuidelines_v3.pdf
- Center for Open Data Enterprise – Addressing Privacy Concerns: http://www.opendataenterprise.org/reports/BriefingPaperonOpenDataandPrivacy.pdf

Additional Resources

For more information about the initiatives and government institutions discussed in the course, refer to the following links:

- United Nations – A World That Counts: http://www.undatarevolution.org/wp-content/uploads/2014/11/A-World-That-Counts.pdf
- U.S. Office of Management and Budget – M-13-13: https://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf
- G8 – Open Data Charter: https://www.gov.uk/government/publications/open-data-charter/g8-open-data-charter-and-technical-annex
- European Open Data Strategy - Chapter 4: https://www.europeandataportal.eu/sites/default/files/edp_creating_value_through_open_data_0.pdf
- ADS 579 USAID's Policy on Development Data: https://www.usaid.gov/sites/default/files/documents/1868/ADS579FactSheet%202015-02-13.pdf