Bocconi University – Ph.D. School

Social Network Analysis

Doctoral Seminar
Fall 2017

Instructor: Prof. Giuseppe (Beppe) Soda

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Overview
Organizational social network research has achieved a prominent position in management and social sciences. Network studies have appeared regularly in management journals, contributing to the investigation of a wide range of organizational topics across different levels of analysis. The following figure illustrates the exponential growth of network research since his origin in the fields of socio-psychology and anthropology.

![History of SNA](image)

- 1736: Euler
- 1900s: Durkheim, Simmel
- 1940s: Sociometry
- 1940s: Psychologists
- 1950s: Formally defined
- 1950s: Anthropologists
- 1960s: Network theory
- 1970s: Rise of sociologists
- 1980s: Small Worlds, Strength of Weak Ties
- 1980s: IBM computation
- 1990s: Ideas spread
- 2000s: UCINET released
- 2000s: Re-invented by physicists
- 2000s: Social capital
- 2000s: Small World

*for a history of SNA see Borgatti et. al, 2009 in Science

The objective of this course is to familiarize students with the theory, research and methodological issues connected with social network analysis in organizational contexts.
Upon completion of the course, students should have a good grasp of social network concepts and methods, and be able to use them to conduct research. The teaching method requires the use for the lab-sessions of computers. Classroom will be equipped with both hardware and software. The completion of exercises is an important aspect of the class, and will help them to familiarize with the analytics tools.

Where appropriate, we have assigned data and theory exercises to illustrate specific topics. Your completion of these exercises is an important aspect of the class, and will help familiarize you with the UCINET software that includes the standard tools used in organizational network analysis. The computers in the classroom will have the most recent version of UCINET but if you want to download on your PC the software please see www.analytictech.com

Course Evaluation

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<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Class contribution (class discussion, and, of course, attendance and punctuality)</td>
<td>10%</td>
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<tr>
<td>Exercises</td>
<td>40%</td>
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<tr>
<td>Final paper</td>
<td>50%</td>
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For the paper, students are required to do a short paper that should involve the exploration, from a social network perspective and methodology, of (when applicable) a \textit{theory-driven question} of interest.

Online links

International Network for Social Network Analysis (INSNA) home page
http://www.heinz.cmu.edu/project/INSNA/

Academic Dishonesty

All of us in the class are expected to abide by the highest standards of professionalism with respect to issues such as avoiding plagiarism.

Instructor:
Giuseppe “Beppe” Soda: PhD in Management, Bocconi University, Professor of Organization Theory at Bocconi University, is the Dean of SDA Bocconi School of Management. He also played the role of Head of the Department of Management & Technology. He has been a visiting professor at the Heinz III School, Carnegie Mellon University, Pittsburg (PA, USA), 1999-2000, at Carlson School of Management, University of Minnesota (2005, 2006 and 2007), and at IE Business School Madrid (2010).

In his research and teaching activity has been awarded for: Research Impact Award 2016; Excellence in Research Award, Bocconi University 2013, 2012, 2009, 2008 and 2001; Best Innovative Executive Teaching program 2015; Excellence in Teaching Award for undergraduate courses, Bocconi University (2006-2007); Best Paper Award, Bocconi School of Management (2005), MBA Teacher of the Year, SDA Bocconi School of Management (2005); Master Teacher of the Year, SDA Bocconi School of Management (2004); Case Study of the Year 1999.

His research interests are broadly concerned with understanding how organizational networks and inter-firm collaborations making influence on organizational level outcome, where do networks come from, how they evolve over time, and impact of time on the relationships between network structures and outcome. He has also investigated how network analysis can be used to design effective organizations and firm governance. Broadly, themes that he has been researching include: Antecedents, mechanisms and forms of Interfirm networks; the performance implications of inter-organizational networks; the impact of time on the relationships between network structures and outcome; the genesis and dynamics of network structures; network approach to organizational and governance design; co-evolution of meanings and network structures within organizational teams.


Additional information at personal page link at: http://didattica.unibocconi.it/docenti/cv.php?rif=48816&cognome=SODA&nome=GIUSEPPE

Topics and Assigned Readings

(optional readings are indicated by an *)

For the methods sections, we'll use the following textbook freely available on-line

Robert A. Hanneman and Mark Riddle: Introduction to social network methods.
Available on line at http://faculty.ucr.edu/~hanneman/nettext/
**CLASS 1**  
*(sessions 1 -2)*  
**INTRODUCTION TO THE COURSE AND FOUNDATIONS OF SOCIAL NETWORK ANALYSIS**

**Readings:**


Slides will be distributed my mail after the class

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**CLASS 2:**  
*(sessions 3 -4)*

**Network Analysis: Familiarize with Ucinet, basics of SNA and graph theory**
Methods:
(Chapters from Robert A. Hanneman and Mark Riddle: Introduction to social network methods):
1. Social Network Data and Mathematical foundations
2. Using matrices to represent social relations
3. Working with Netdraw to visualize graphs
4. Working with network data
5. Connection

CLASS 3:
(sessions 5 -6)

Social and relational capital (All papers are available on DISK L)

Methods:
Robert A. Hanneman and Mark Riddle: Introduction to social network methods:
6. Connection
7. Embedding
8. Ego networks
9. Centrality and power
10. Cliques and sub-groups
11. Positions and roles: The idea of equivalence

Required Readings

Foundations
Academy of Management Review 23(2) 242-266.


Intra-organizational social/relational capital and impact on individual and organizational performance


Inter-organizational social/relational capital and impact on organizational performance

Suggested readings


CLASS 4 AND CLASS 5  
(sessions 7-8-9-10)

Network Structures, strength of ties and their implications for organizational outcomes
(All papers are available on DISK L)

Bring your laptop with installed Ucinet VI

Required readings

Network and Innovation/Creativity


Network and Knowledge Sharing

Contingencies factors moderating relationships between networks and outcomes


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**CLASS 6:**
*(session 11-12)*

**Bring your laptop with installed Ucinet VI**

Advanced Network metrics (Ego-networks, Roles and Positions, test of Hypotheses)
Origins and evolution of networks

G. Ahuja, G. Soda and A. Zaheer, “Genesis and Dynamics of Organizational Networks”, 
