Introduction to Social Network Analysis
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Required Texts & Software

Hanneman, R. A. and Riddle M. 2005. Introduction to social network methods. Riverside, CA: University of California, Riverside (published in digital form at http://faculty.ucr.edu/~hanneman/)

Borgatti, S.P., Everett, M.G., Freeman, L. 2002. *UCINET 6 for Windows.* Harvard: Analytic Technologies. A 30-day free trial version is available at www.analytictech.com.

Readings

Padgett, J. F., & Ansell, C. K. (1993). Robust Action and the Rise of the Medici, 1400-1434. *American journal of sociology*, 1259-1319.

Krebs, V. E. (2002). Mapping networks of terrorist cells. *Connections*, *24*(3), 43-52.

Sedita, S. R., & Apa, R. (2015). The impact of inter-organizational relationships on contractors' success in winning public procurement projects: The case of the construction industry in the Veneto region. *International Journal of Project Management*, *33*(7), 1548-1562.

Bettiol, M., & Sedita, S. R. (2011). The role of community of practice in developing creative industry projects. *International Journal of Project Management*, *29*(4), 468-479.

Lazzeretti, L., Sedita, S. R., & Caloffi, A. (2014). Founders and disseminators of cluster research. *Journal of Economic Geography*, 14(1), 21-43.

Additional Material

Wasserman, S., Faust, K. 1994. *Social Network Analysis: Methods and Applications.* Cambridge University Press.

Kilduff, M., Tsai, W. 2003. *Social Networks and Organizations*. Sage.

Scott, J. 2000. *Social Network Analysis*. Newbury Park CA, Sage.

Borgatti, S.P., Everett, M.G., Johnson, J.C. 2013. *Analyzing Social Networks*. London, Sage.

Topics & Exercises

Session 1. Social Network Analysis: what, how, why?

Central questions in this session:
- What is social network analysis? Why do we need social network analysis?
- How does a social network approach differ from "classic/standard" research?
- What is the difference between egocentric and complete networks?
- How can we (best) visualize networks? What programs are available?
- How cohesive is my network? What is network density?
- Who is most central in my network? What is degree centrality?
- When is a network centralized, and why is it important? How can we measure it?

Exercises with UCINET:
- How to build/import a dataset
- Visualisation of social networks
- Calculate the density of a network
- Degree centrality
- Freeman's centralization

Session 2. Centrality measures: an overview

Central questions in this session:
- What is social capital? What is social support?
- What types of centrality measures are there? What is the difference between degree, closeness and betweenness centrality? What other measures of centrality are there?
- When do we use which central measure (closeness, betweenness, …)? How are they different?

Exercises with UCINET:
- Different centrality measures: closeness, betweenness, etc.

Session 3. Structural holes, closure and brokerage roles

Central questions in this session:
☐ What is Granovetter's "Strength of Weak Ties" argument? Why is it important?
☐ What is a "small world" network? What is six degrees of separation?
☐ Is it better to be connected to different groups of others, or have one big group of closely interwoven contacts? What is Ron Burt's view? And James Coleman's view? How can we measure this?
☐ What are Simmelian ties, and why are they important according to David Krackhardt?
☐ What are Gould and Fernandez' brokerage types?

Exercises with UCINET:
☐ Clustering coefficient
☐ Constraint index and other measures of openness/closure
☐ Gould & Fernandez brokerage roles

Session 4. Homophily/collecting data

Central questions in this session:
☐ Why do friends tend to be similar to ourselves (e.g. smoking, music taste)? What is homophily? How can we measure it?
☐ What type of social network data are there? How to collect social network data?

Exercises with UCINET:
☐ Homophily (EI index)

Session 5. Subgroups and hierarchies

Central questions in this session:
☐ How can I identify subgroups in my network? What types of subgroups are there? How many components does my network have? What is a clique? What is a k-plex?
☐ What are the properties of a hierarchical network? To what extent does my network correspond to a hierarchical network?

Exercises with UCINET:
☐ Subgroup analysis (components, k-cliques, k-clans, …)
☐ Dimensions of hierarchies

Session 6. Equivalent positions, roles and blockmodeling

Central questions in this session:
☐ When do two actors have the same (or a similar) position in a network?
☐ What is regular equivalence? What is structural equivalence? What does it mean to be structural/regular equivalent?
☐ What is blockmodeling?
☐ What is a core-periphery structure?

Exercises with UCINET:
☐ Calculate structural and regular equivalence
☐ Identify roles through blockmodeling

Session 7. Two-mode networks

Central questions in this session:
☐ What is a two-mode (affiliation/bipartite) network? How is it different from a one-mode network?
☐ What properties of a two-mode network are interesting?
☐ How can we identify central persons in a two mode network?

Exercises with UCINET:
☐ Different ways of dealing with two-mode networks (i.e. transforming them) in order to use available procedures in UCINET.