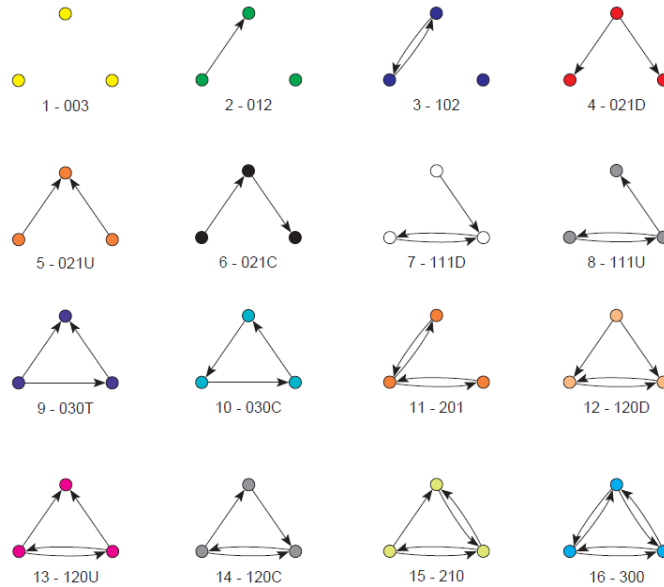


SOCn5010 Analýza sociálních sítí

Přednáška 6: Moc



Co je to moc a jak ji studovat?

- Nominální přístup
 - stratifikační (viditelné znaky moci)
 - poziční (viditelná mocenská pozice)

- Strukturální přístup
 - stratifikační (diskrétní znaky moci)
 - poziční (potenciální nebo reálná mocenská pozice)

Ecole Nationale d'Administration (ENA)



Training Leaders

Four of the eight presidents and more than one third of the 22 PMs who served under France's current constitution were trained at ENA.

● Attended ENA ● Didn't attend ENA



Notes: French presidents and prime ministers serve concurrently. Twenty-three dots are shown because Jacques Chirac served as prime minister under two presidents. Alain Poher was interim president in 1969. Several prime ministers and presidents completed their studies before ENA was created. Source: French government

Photos: Zuma Press (2); Agence France-Presse/Getty Images (2); Reuters (1); Getty Images (3)

Sítě jako nové mechanismy organizace (Powell)

Table 1. Stylized Comparison of Forms of Economic Organization.

<i>Key Features</i>	<i>Forms</i>		
	<i>Market</i>	<i>Hierarchy</i>	<i>Network</i>
Normative Basis	Contract— Property Rights	Employment Relationship	Complementary Strengths
Means of Communication	Prices	Routines	Relational
Methods of Conflict Resolution	Haggling— resort to courts for enforcement	Administrative fiat—Supervision	Norm of reciprocity— Reputational concerns
Degree of Flexibility	High	Low	Medium
Amount of Commit- ment Among the Parties	Low	Medium to High	Medium to High
Tone or Climate	Precision and/or Suspicion	Formal, bureaucratic	Open-ended, mutual benefits
Actor Preferences or Choices	Independent	Dependent	Interdependent
Mixing of Forms	Repeat transactions (Geertz, 1978)	Informal organization (Dalton, 1957)	Status Hierarchies
	Contracts as hierarchical documents (Stinchcombe, 1985)	Market-like features: profit centers, transfer pricing (Eccles, 1985)	Multiple Partners Formal rules

Jaké vlastnosti sítí nás zajímají?

- Centralita (*degree*) – počet vazeb
- Pozice z hlediska toku informací (*betweenness*) - kontrola
- Blízkost k ostatním uzlům (*closeness*) – dostupnost
- Strukturální mezera (*structural hole*) – pozice mezi vzájemně nepropojenými uzly (a jejich shluky), které mají komplementární zdroje

Příklad: Medicejové (Padgett, Ansel 1993)

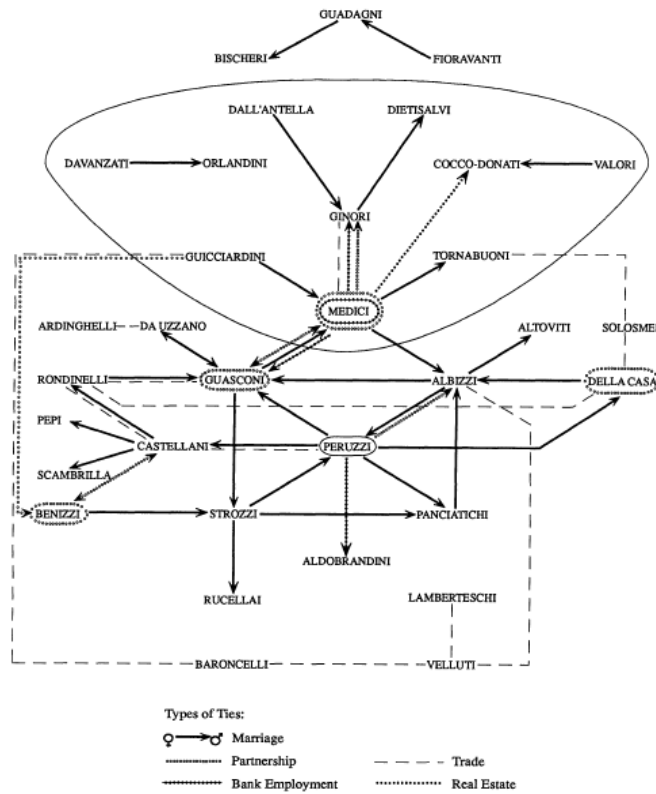


FIG. 2a.—Marriage and economic blockmodel structure (92 elite families)

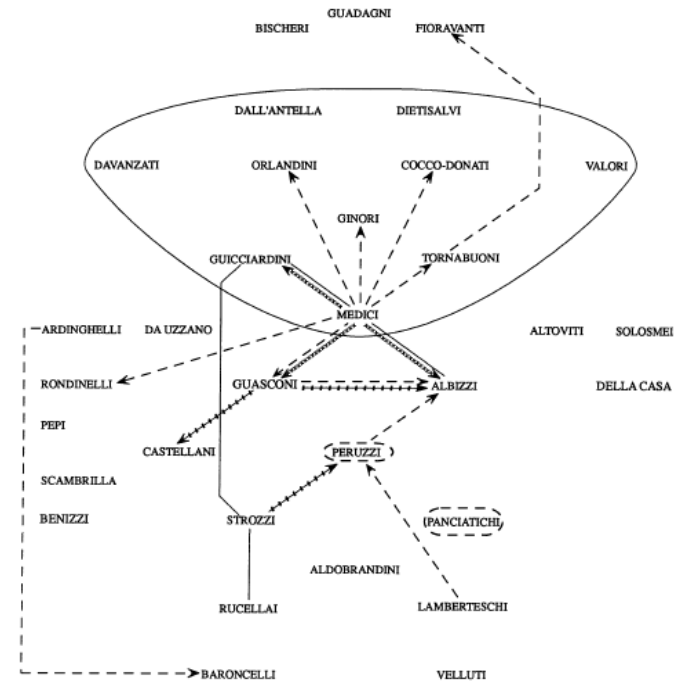


FIG. 2b.—“Political” and friendship blockmodel structure (92 elite families)

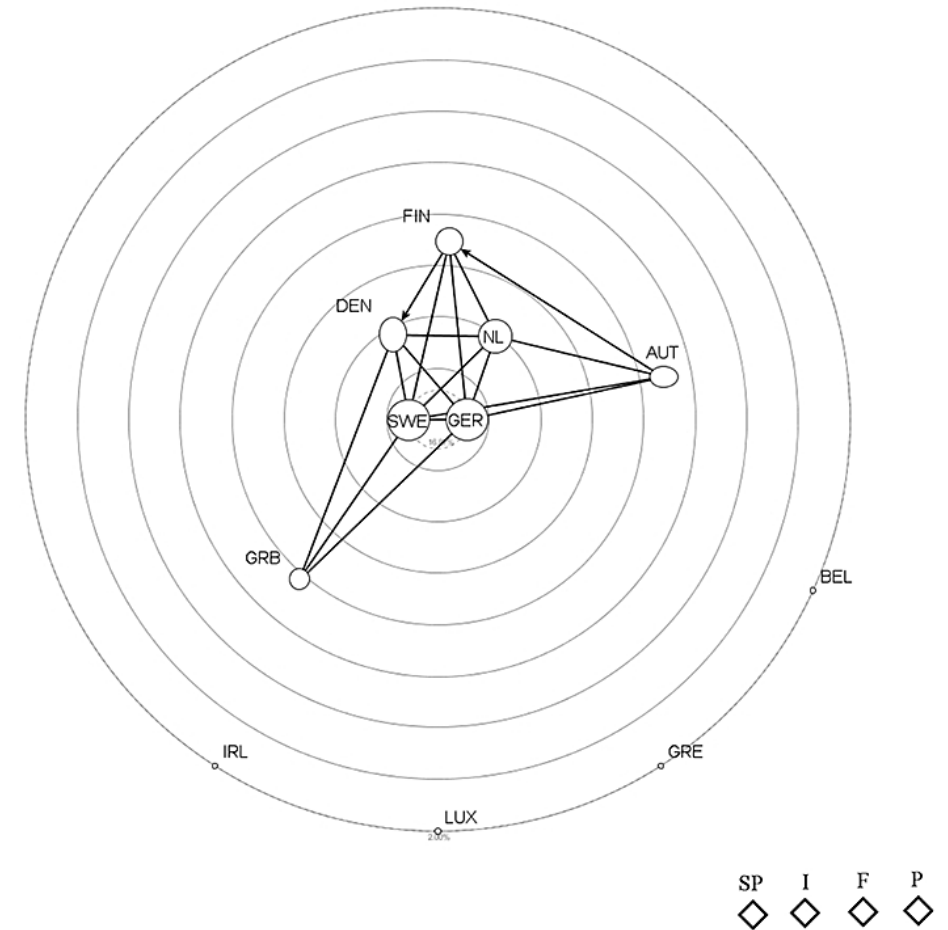
Analýza moci s pomocí SNA

- 1. Mapování sociálních vazeb (příbuznost, ekonomická směna, politická afiliace)** – mapování různých druhů kapitálu
- 2. Brokerage and Bridging:** kdo dokáže zprostředkovávat vztahy mezi jinými? Kdo usměrňuje tok informací a nastoluje agendu?
- 3. Structural Holes:** mezi kterými částmi sítě chybí spojení? Kdo je umí přemostit?
- 4. Adaptabilita:** kdo umí rychle volit nové spojení? Kdo má velký výběr partnerů? Kdo umí rychle vytvořit nová spojení?
- 5. Multiplex Networks:** kdo má přístup do různých typů sítí?
- 6. Historical Context:** v jakém kontextu se vše odehrává? Jaký typ chování tento kontext podporuje? Jaké typy vazeb umožňuje a odměňuje?

Jak jednotlivci a skupiny mohou utvářet sociální vazby a být utvářeni svými sociálními vazbami a jak tyto vazby ovlivňují rozdělení moci v dané společnosti?

Příklad: Transgovernmental networks (Turner, Binder 2009)

Does the European Union (EU) represent a new political order replacing the old nation-states? The assessment of the real character of political orders requires the identification of political key actors and of the specific structure of their interactions. Transgovernmental networks have been considered to be one of the most important features of EU integration. Unfortunately, the network structures, processes and the impact of these informal horizontal inter-organisational relations between nation-states are mostly unknown. The main objective of this article is to **measure and explain the selective pattern of informal bilateral relations of high officials of the EU Member States' ministerial bureaucracies on the occasion of an EU Intergovernmental Conference**. The quantitative data used rely on standardised interviews with 140 top-level bureaucrats. The statistical estimation of network choices is based on recent developments of exponential random graph models.



Příklad: Analýza meziparlamentních komisí (Mochťak, Diviš, 2016)

This article analyzes a structure of relations among the members of the Chamber of Deputies, the lower house of the Parliament of the Czech Republic, as reported through their memberships in bilateral and multilateral groups of friendship which establish professional contacts between the Chamber of Deputies and foreign parliaments. We approach the structure as a social network of members of parliament and interpret the memberships as proxy indicators of their interests/preferences in foreign affairs. This research shows that interparliamentary groups construct a self-sustained independent structure for parliamentary diplomacy which may significantly differ from the official positions of the government. We find that the studied network has a centralized core-periphery structure, in which deputies who are less prominent and those interested in authoritarian regimes occupy more central positions. This research connects the findings with the current debates on Central European tendencies to look for allies in large authoritarian regimes (Russia and China), for which we argue the interparliamentary groups might play the role of an important communication channel.

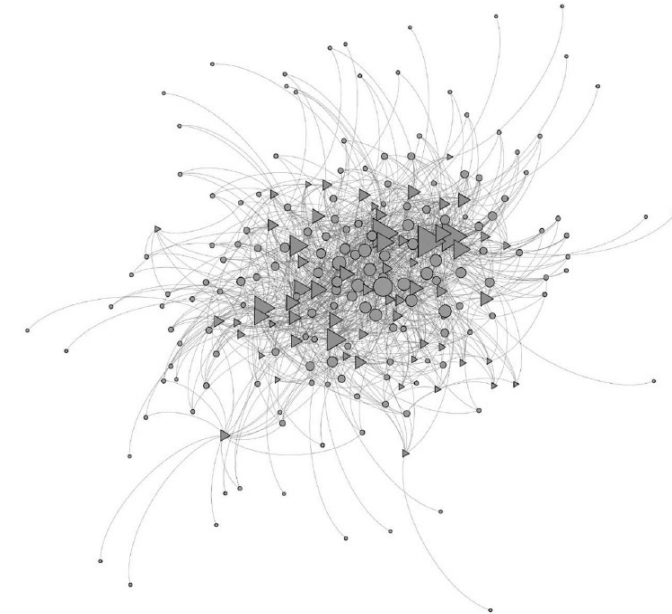


FIGURE 6. Visualization of the network with node size proportionate to their degree.

Note: Triangles refer to groups and circles refer to deputies. Isolates are removed from the graph. The plot captures the core of central deputies and groups in the middle.

TABLE 2
Ten Most Central Deputies and Their Degrees

<i>Deputy</i>	<i>Party</i>	<i>Coreness</i>	<i>Degree</i>
Pavlina Nytrova	CSSD	0.27	33
Antonin Seda	CSSD	0.18	22
Vojtech Filip	KSCM	0.18	18
Vaclav Snopek	KSCM	0.17	17
Dana Vahalova	CSSD	0.16	18
Jana Hnykova	Usvit	0.16	19
Rene Cip	KSCM	0.16	19
Vaclav Klucka	CSSD	0.15	15
Marta Semelova	KSCM	0.15	15
Lukas Pleticha	CSSD	0.15	20

TABLE 3
Ten Most Central Groups and Their Degrees

<i>Group</i>	<i>Coreness</i>	<i>Degree</i>
Russia	0.35	56
China	0.30	51
Slovakia	0.29	51
Azerbaijan	0.22	33
Vietnam	0.21	31
Cuba	0.20	28
Armenia	0.18	35
Poland	0.17	26
Austria	0.16	36
Israel	0.16	39

Seminář

Intro

- Centrality (**node** attribute) vs. Centralization (**network** attribute)
- Node position in the network – its structural importance
- Various measures – depending on the conceptualization of the network
- Flow of information, friendship relations, economic transactions...)
- Influence, prominence, control, prestige, social capital...
- Not inherently related to centrality!
- Overallly positive aspect of centrality in positive network

Degree centrality

- Number of ties a node has
- No other data from network are necessary
- Universal measure
- Directed networks: in-degree, out-degree
- Valued networks: average or sum of all values

Eigenvector centrality

- Each node's centrality is proportional to the sum of centralities of the nodes it is adjacent to
- Measure of popularity or risk
- Directed networks: right eigenvector (outdegree) and left eigenvector (indegree)
- But: better option for directed networks is beta centrality
- Valued networks: no modification (node centrality proportional to the sum of centralities of the alters weighted by the strength of a tie – high-valued connection to low-centrality actor similar as low-valued connection to highly central actor)

Beta centrality

- extensions of the idea of degree centrality based on adjacencies
- The "attenuation factor" indicates the effect of one's neighbor's connections on ego's power
- Where the attenuation factor is positive (between zero and one), being connected to neighbors with more connections makes one powerful
- Bonacich: If ego has neighbors who do not have many connections to others, those neighbors are likely to be dependent on ego, making ego more powerful
- Negative values of the attenuation factor (between zero and negative one) compute power based on this idea.
- Valued networks: no modification

Closeness centrality

- Sum of **geodesic** distances from a node to all others
- Inverse measure of centrality (the higher the number, the more the node is peripheral)
- Not always geodesic distances (**Hubbell and Katz approaches - influence**) - The Hubbell and Katz approaches count the **total** connections between actors (ties for undirected data, both sending and receiving ties for directed data); each connection, however, is given a weight, according to its length. The greater the length, the weaker the connection
- Normalized closeness (each node's score is divided into $n-1$) - the higher the number the node is more central (close)
- Problem in disconnected networks
- Not working well with directed data (disconnected networks)
- Valued data: many options, need to conceptualize tie strength

Betweenness centrality

- With binary data, betweenness centrality views an actor as being in a favored position to the extent that the actor falls on the geodesic paths between other pairs of actors in the network
- the more people depend on me to make connections with other people, the more power I have
- the proportion of times that each actor is "between" other actors
- may be normalized by expressing it as a percentage of the maximum possible betweenness that an actor could have had
- Valued network: many options, need to conceptualize tie strength

K-step reach

- Counts the number of nodes each node can reach in k or less steps.
- For $k = 1$, this is equivalent to degree centrality.
- For directed networks, both in-reach and out-reach are calculated.

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