SOCIAL NETWORK ANALYSIS: GET THROUGH THE OBSTACLES TO GET IT DONE

- SNA is useful when working in complex systems where interactions and flows are key to measuring success.
- Using SNA has its own challenges, but these can be mitigated by making conscious design choices with available resources, and by accounting for limitations when interpreting data.

APPROACHES TO EVALUATION

CONVENTIONAL	COMPLEX SYSTEMS LENS
The intervention is the main driver of change	Interactions between intervention and other components affect outcomes and system characteristics
Individual attributes e.g. age, sex, country income level, project size and type	Relational attributes e.g. role, behavior towards, attitude towards, access to
Fixed individual characteristics	Interdependence affects individual characteristics
	The system has emergent characteristics that individual components do not possess
Individual attributes and actions affect outcomes	System characteristics affect outcomes
Static	Dynamic, unpredictable

SNA CHALLENGES AND MITIGATING MEASURES

CHALLENGE	WHY IT'S A CHALLENGE	MITIGATING MEASURES
Perspectives	No single source of information provides a complete picture of the components and interactions of a system Not everyone's perspectives may be feasible to obtain	Obtain the perspectives of all relevant stakeholders, especially those marginalized Acknowledge which perspectives you have included and excluded, and take this into account when interpreting data
Boundaries	All of reality cannot be captured and analyzed, therefore it needs to be reduced to a model of the relevant system SNA findings are only valid if the set of nodes (i.e., population of the relevant system) is complete, but data may not always be available for whole system	Based on the M&E question, determine which system is relevant, then identify nodes that need to be included in, and which nodes may or have to be excluded from the system Clearly define the criteria for included and excluded nodes such that you have a "complete" population given those criteria, and take this into account when interpreting data
Data	Construct validity of available data Low response rate Cognitive biases Limitations in what SNA can measure	Collect primary data e.g. survey Follow up by phone or face-to-face Probe during interviews Triangulate/ synthesize results using other methods and data sources, and over multiple time periods
Resources	Limitations in budget, time, technical capacity to apply method, or management support	Test out method using minimal resources as proof-of-concept before launching a full-scale analysis

For questions and comments, contact Katsumasa Hamaguchi (khamaguchi@worldbank.org) or Jeneen R. Garcia (jgarcia2@thegef.org).

SOFTWARE RESOURCES

SOFTWARE	PROS	CONS
UCINet / NetDraw http://www.analytictech.com/archive/ucinet.htm	High number of options for analysis Good visualization Free for 60 days	No MAC version, need to install virtual machine
NodeXL https://nodexl.codeplex.com/	Can be used within Excel Good visualization and analysis Easy access to social network data (paid version) Free (limited version)	May not function in the Mac version of Excel
Gephi https://gephi.org/	High-quality visualization No programming required Uses big data Free	Limited analysis
iGraph http://igraph.org/redirect.html	Uses big data Free	Requires programming knowledge in R, C/ C++ or Python
Cytoscape http://www.cytoscape.org/	High-quality visualization No programming required Uses big data Free	Map not interactive
Kumu https://kumu.io/markets/network-mapping	Interactive visualization designed for websites and presentations Allows collaboration Free public account or private account free for 30 days	Requires internet to use Limited analysis

LEARNING RESOURCES

http://www.faculty.ucr.edu/~hanneman/nettext/

http://analytictech.com/networks/

https://www.edx.org/course/social-network-analysis-sna-utarlingtonx-link-la-snax

https://www.coursera.org/courses?languages=en&query=social+network+analysis

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