# NETWORK ANALYSIS ON A SHOESTRING
accessible, creative and free!

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who are you?

- **REASONABLY COMPUTER LITERATE**
  - Willing to grow skills through self-teaching
- **IDEA RICH AND CASH POOR**
  - Willing to do a little extra work for a cheap solution

how to collect data?

- **PRIMARY DATA**
  - Interview, Survey, Focus Groups, etc.
- **SECONDARY DATA**
  - Official Databases, Web Analytics, etc.

how can you do it?

1. **EXPORT SURVEY DATA TO EXCEL**
   - 1. Export and encode the data collected

2. **REFORMAT INTO AN EDGELIST**
   - 2. This step may be simple or involve a bit of Excel formulas in Excel, all of those aspects should be relatively easy to adjust.
   - a) “Count and merge duplicate edges” and b) “Get vertices from edges worksheet”. You can then click on “Show Graph” to see the basic network visualization.
   - Usually, the basic visualization will need some tweaking (design, color, size, opacity) to start to reveal the important patterns in the data. For those accustomed to writing simple formulas in Excel, all of those aspects should be relatively easy to adjust.

3. **COPY-PASTE INTO NODEXL**
   - 3. Once you have the NodeXL template and edgelist, simply copy-paste the edgelist into the “Edges” worksheet of the template

4. **FINALIZE REFORMATTING AND ADJUST VISUALIZATION SETTINGS**
   - 4. Depending on your data, you may have to prepare it further before NodeXL can visualize it with two built-in NodeXL functions: a) “Count and merge duplicate edges” and b) “Get vertices from edges worksheet”. You can then click on “Show Graph” to see the basic network visualization.
   - Usually, the basic visualization will need some tweaking (design, color, size, opacity) to start to reveal the important patterns in the data.

#1: multiple response questions

This example visualizes how survey respondents answered the question “How would you describe the type of network, movement or organization you represent?” (more than one answer is possible. Please check at least one.)

Network-style visualization displays not only the distribution of choices, but also which combinations were most commonly selected. For instance, Academics in this respondent group disproportionately identified themselves as part of a social movement, while none of the individual activists also considered themselves as belonging to an international organization.

The diagram itself provides no immediate answers, but the map helps to pinpoint some potentially key questions for the interview phase, like:

- How do academics participate in social movements? If they were more involved in community associations, media activism, NGOs, human rights networks, or international organizations, might that make a difference?
- What about being an individual activist or being in an international organization? Does that preclude participation in the other?
- Is “Social Movement” a catchphrase which disguises vast internal heterogeneity or do all of the different organizational types actually work in concert?

#2: facebook posts likes and comments

This example demonstrates how to use simple network visualization and analysis to help understand the behavior of the followers of a business’ Facebook page and adapt the company’s social media communication strategy accordingly.

Plan Políticas Públicas is a private M&E consulting firm based in São Paulo, Brazil. At the moment, about 800 people follow the company’s Facebook page, which is updated with regular posts at the rate of two per week.

The visualization displays the difference between the number of interactions and the quality of the interaction. Most of those who ‘liked’ or commented on the most popular posts never interacted again with the material on the page. But not engage.

Sponsored Posts

In the same vein, interactions with sponsored posts show an interesting pattern: the graphic suggests that paying for promotion skews the Facebook algorithm towards generating a large number of ‘likes’, but does not necessarily increase the level of engagement with sponsored posts, even when I based the promotion on targeted advertisement.