Group assignment

Virksomhedsstrategi i et netværksperspektiv

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1 Format of the assignment

The purpose of this assignment is to help you create associations between the theoretical part of the lectures and the practical part of the exercise classes. We advise you to work on this assignment together with your exam group. The following paragraphs specify the format of the assignment.

1. Analyse a sub-set of the `den17-no-nordic-letters.csv` data set. Clarify your choice of the sub-set, as well as the type of network you are looking at (individual one-mode network or organizational one-node network).
2. Select the component(s) you would like to analyze further and explain your choice.
3. Describe and analyze the component(s) using the tools we have covered in the exercise classes (network structure, central actors and communities) and apply relevant theories from the course.

Ideally, we would like you to submit a written product between 5-10 pages including figures and tables.

2 Further guidelines

2.1 1. Choose a sub-set of the data set

- it is important to specify your choices. Why have you looked at this sub-set and not others? Why are you interested in this specific individual- or organizational one-mode network?
- Make use of tables to give an overview over your subset. Who is included in the data set, what are their roles? An example could be the following, showing a count-table of roles in the sub-set of company board interlocks.

role	n	percent
Member	4285	57.7
Chairman	1052	14.2
Chief executive	867	11.7
Executive	583	7.9
Vice chairman	367	4.9
Other role	270	3.6

2.2 2. Select suitable component(s)

- describe how many components there are in your sub-set, and specify which component(s) you are concentrating your analysis on. If you are selecting several components, make sure that they need to be analyzed separately.
- consider providing a visualization of the graph components using autograph() or a table as seen below.

N Components	N Nodes
1	533
2	38
3	10
4	3
5	1
6	1
476	1

2.3 2. Describe and analyze selected component(s)

Remember that - so far - we have covered three levels of network analysis that all take place on a component level.

- analysis of the network structure
- analysis of nodes (centrality)
- analysis of groups, cliques and communities

You are expected to analyse the component(s) using measures that we have covered at each level. Be mindful to include theoretical explanations for the measures. Draw on the papers that you have been provided.

2.3.1 Network structure

- Report e.g. density, transitivity and average distance. Show visualizations of the network and interpret the measures. Make use of the papers in class to help with the theoretical interpretations.
- Make sure to qualify the results of your measures. How are the measures able to describe the network - and how does this relate to other networks? E.g. what does an average distance of 3 tell you about the network? Is it small, or big compared to others? Here, it could be helpful to compare with other networks from class - or with another network of your choice.

2.3.2 Node analysis

- Calculate degree, betweenness and other measures to qualify the centrality of certain actors in the network. Interpret their position drawing on these measures, and their theoretical importance.
- You are welcome to focus on certain nodes, either because they have a theoretical relevance, or because they are scoring high on centrality measures.
- Maybe include visualizations of the most central actors. Try to connect your analysis on central nodes with the network structure. Does the structure help us in understanding the centrality of certain actors?

2.3.3 Community and group analysis

- cluster the network component(s) in communities, or investigate cliques in the network object and make sense of the clustering using theoretical arguments or other relevant insights

- Connect this analysis with the analysis on nodes or the overall network structure. In which communities do central nodes find themselves in. Are there theoretical explanations for this?
- Another example could be to test assortativity/similarity of nodes within the network. Are there some structural variables that might explain direct connections?