

# Modeling Dynamics in Network Organizations

## Part 1: steps 1-2

1. Choose a network organization (NO) to simulate. An example is a small project team (say 3 people) working on a common goal. For a motivating simple example, consider the NO is monitoring parts of a no-fly zone sky. Since people's social lives outside NO change, they enter and leave other social networks. Each time attributes of a member of NO changes, all links in NO change. Each time a node links or unlinks with an external node, it impacts the nature of internal links. Develop a general model of categories of changes to links in your NO by abstracting from the specific changes in NO of your focus. In extreme cases, the original NO might divide, merge with other NO, die, or change state (active, passive, productive, frustrated, ...)
2. Your model should answer a few of the following questions:
  - a. What are the big impacts of a new member joining or leaving NO?
  - b. What are the impacts of various length link cycles with the outside?
  - c. What are impacts of transitivity on NO?
  - d. Are triads impacting dyadic links? Explain using Fritz Heider's balance theory (Heider, 1958).

## Part 2: Step 3

3. Quantify and demonstrate select metrics from step 2 on NO built from step 1.

## References

Heider, F. 1958. *The Psychology of Interpersonal Relations*. Wiley & Sons Pub.