Generalized Blockmodeling of Valued Networks

Aleš Žiberna

University of Ljubljana, Slovenia
e-mail: ales.ziberna@guest.arnes.si

The presentation several approaches to generalized blockmodeling of valued networks are presented. It is shown that the same criterion function used for generalized blockmodeling (Doreian, Batagelj, and Ferligoj, 2005) of binary networks can also be used for valued networks by specifying appropriate ideal blocks. Values on the ties are assumed to be measured on at least interval scale.

The first approach is a straightforward generalization of the generalized blockmodeling of binary networks proposed by Doreian, Batagelj, and Ferligoj (2005) to valued blockmodeling. The second approach is homogeneity blockmodeling. The basic idea of homogeneity blockmodeling is that the inconsistency of an empirical block to its ideal block can be measured by within block variability of appropriate values. What the appropriate values are is determined by the ideal block to which inconsistencies for selected empirical block are computed. These values are always based on values on the ties in the selected empirical block. New ideal blocks appropriate for blockmodeling of valued networks are presented together with the definitions of their block inconsistencies.

The advantages and disadvantages of proposed approaches are discussed. An example is also given.