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REVIEW

W. de Nooy, A. Mrvar, & V. Batagelj, (2005). *Exploratory social network analysis with Pajek*. New York: Cambridge University Press. 362 + xxvii PP. $39.99, ISBN: 0521841739.

Exploratory Social Network Analysis with Pajek uses detailed examples and explanations to outline the natural progression of a descriptive social network analysis using Pajek software. This book is a great introduction for individuals new to the field of network science, but is advanced enough for more experienced users looking for information on specific questions. Each section clearly notes purposes and goals, with definitions of important terms highlighted. An excellent division into subsections allows for the mastery of the material in logical steps. Exercises with detailed answers accompany well-planned examples. Answers provided to the exercises include the steps necessary for the analysis, along with the output from the program. A close reading of this guide and selected suggested readings give an excellent introduction to the field of network analysis.

The division of the book into four main sections allows readers to easily navigate the material. The first part contains an introduction to the fundamentals of social network analysis. Chapter 1 introduces visualization and a brief description of social network terminology. Although the coverage in Chapter 1 is sufficient for individuals new to social network analysis and the Pajek program, the introduction to visualization and format of the Pajek program continues in more depth in the second appendix. Data collection techniques are briefly discussed in this chapter, encouraging the reader to consider topics presented later in the book. Chapter 2 introduces the analysis of attributes and relations. Network relations such as friendship, business partners, communication ties, and countless others, provide structure between actors. Network relations and attributes provide information on the structure and characteristics of the network.

Measures of cohesion in a network, including cohesive subgroups, structural balance and two mode networks, are the focus of the second part of the book. Chapter 3 introduces cohesive subgroups along with the statistical tools and definitions needed to identify such groups. These tools include density and degree, walks and semiwalks, paths and semipaths, connected networks, and components of networks. Chapter 4 discusses balance theory, signed graphs, cycles, and clusterability. The section on detecting structural balance and clusterability in Chapter 4 works through an example completely–from how to visualize the network to how to subjectively determine an acceptable level of balance. This section exemplifies how this book gently leads the user through the often-confusing maze of terminology, commands, and output.

Part three spotlights social networks that exhibit structures associated with information exchange. The chapters in this section outline the roles that actors can take. Actors may be in the core or on the periphery; either brokers or bridges. In addition to these roles, mechanisms for diffusion (including contagion) highlight ways a researcher might think of information flowing in a network. The measures computed from the relational ties between actors determine which actors control social capital.

The fourth section concentrates on the implication of directed ties. Certain measures such as prestige and rank depend on which actor initiates a tie and whether the tie is reciprocated. A diagram summarizing all possible directed triads and the corresponding values needed to identify each in Pajek. Balance models are again presented in Table 16 with a brief description listing the triads associated with each model. The last chapter in part 4 introduces how time can play a

factor in networks, such as in genealogies. Time provides a natural ordering of events which must be accounted. An example of a citation network also contributes to the understanding of how to account for time in a network analysis. De Nooy, Mrvar and Batagelj conclude with a section on social roles, specifically in relation to blockmodeling. Blockmodels are used to describe the overall pattern of ties and the social roles in a network.

Appendix 1 provides instructions on how to install the Pajek program and how to read in the network data. Appendix 2 guides the reader through exporting visualizations from Pajek, providing more detail than provided in Chapter 1. Appendix 3 lists available command shortcuts. A glossary of terms with reference pages follows the appendices.

On the whole, this book provides a usable, step-by-step guide for describing the structure and characteristics of a social network. From basic visualization to advanced exploratory analysis tools, this text provides enough detail for a novice to understand the analytic process. This book easily guides the reader through all theory, steps in application, and interpretation of results. No other book currently on the market provides such a complete guide to exploratory network analysis and accompanying computer software.

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