Global Journal of HUMAN-SOCIAL SCIENCE: A
Arts & Humanities - Psychology
Volume 16 Issue 7 Version 1.0 Year 2016
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460x & Print ISSN: 0975-587X

Analyzing Social Networks

By Borgatti, S. P. , Everett, M. G. & Johnson, J. C.
University of Bejaia

Introduction- The raise of social networks in the last decades in various fields has called upon the need for their analysis. This phenomenon gave birth to Social Network Analysis (SNA) in the 1970s. Parallel to this quick development and the increasing need for such a methodology to analyze social networks, researchers developed a number of software for SNA. For these reasons, the authors of the present book (Borgatti, S. P., Everett, M. G. & Johnson, J. C.) made their practical guide about analyzing social networks available for researchers working on social media. Many details about data collection, analysis and interpretation are provided mainly by using the UCINET and NetDraw software designed for SNA.

GJHSS-A Classification: *FOR Code: 370199p*

Strictly as per the compliance and regulations of:

Book Review

Analyzing Social Networks

Borgatti, S. P.[α], Everett, M. G.[σ] & Johnson, J. C.[ρ]

I. Introduction

The raise of social networks in the last decades in various fields has called upon the need for their analysis. This phenomenon gave birth to Social Network Analysis (SNA) in the 1970s. Parallel to this quick development and the increasing need for such a methodology to analyze social networks, researchers developed a number of software for SNA. For these reasons, the authors of the present book (Borgatti, S. P., Everett, M. G. & Johnson, J. C.) made their practical guide about analyzing social networks available for researchers working on social media. Many details about data collection, analysis and interpretation are provided mainly by using the UCINET and NetDraw software designed for SNA.

The book is constructed of fifteen chapters and 290 pages. Each chapter is provided with the learning outcomes that makes of it a lecture-like. Hence, the intended audience of the book can be generalized to even new comers to the field of SNA. The authors divided each chapter into short sections that make easy to read since they orient the reader to the exact needed content. Almost all sections are supported with graphs, figures and tables that explain the different research steps a social network analyst should go through starting from the design to the interpretation of results. For the authors to satisfy a larger audience, they employed a simple language that students, researchers, teachers and practitioners can understand.

Right from the first chapter that constitutes the introduction, the authors defined social networks and what constitute them. Then, they centered the issue of how one can identify and describe different levels of analysis, how to formulate problems on terms of networks variables being independent/explanatory or dependent/outcomes variables. After the identification of networks, mathematical considerations are approached in the second chapter. Focus here is put on graphs as part of the graph theory. From this perspective, the concepts of paths, walks, trails and components are detailed to explain social relations. Of course, we can never refer to social networks mathematically without considering matrices, computing and interpreting multiplication of adjacency matrices.

In the third chapter, Borgatti et al. shed light on designing social networks in an effective and reliable way. They, therefore, introduces many experiments and field studies to illustrate their use in social network research. A point was made about the distinction between whole-network and personal – network research designs and the sources of network data. Various details are presented thoroughly in this chapter namely types of modes and ties, actor attributes, sampling and bounding, validity and reliability and finally ethical issues.

Choosing the appropriate design calls upon the procedures for data collection. Here, the authors emphasized the 'proper selection of the network questions and formats' (Borgatti et al, 2013: 45). In this chapter, details about data collection are presented going from reliability to archival data collection to the electronic sources for data collection.

There is no doubt that data management comes after data collection. In the fifth chapter, Borgatti et al. explained how to manage network data mainly using standard software packages such as the UCINET programmes. Such management calls upon considering data import; cleaning network data; transforming data by transposing, inputting missing data, symmetrizing, dichotomizing, combining and normalization; cognitive social structure data; matching attributes and networks; converting attributes to matrices; and finally data exports.

To go further, the authors tried to present a number of data analysis techniques such as multivariate techniques where they relate SNA to multidimensional scaling, correspondence analysis, and hierarchical clustering (Chapter 6).

In SNA, one usually tries to construct a visual representation of the network. Chapter seven then deals with this said visua lization. For such sake, the researcher should consider the layout, node attributes, node filtering, ego networks, embedding tie characteristics and visualize network change as well as export visualizations through program packages like NetDraw.

The authors of the book devoted this eighth chapter to hypothesis testing. They explained how one can achieve this through permutation tests, regression, correlations, and different coefficients. They also illustrated the chapter with the UCINET existing techniques to test correlations and provided the reader with diverse graph models.

Author: Faculty of Arts and Languages, University of Bejaia.
e-mail: nadiaidri@gmail.com

The authors devoted Chapter 9 to the whole networks. They explained how to calculate cohesion measures, undertake a triad census and compute and evaluate measures of transitivity, reciprocity and clustering.

Chapter 10 details the discussion on centrality where different kinds of centrality - degree, eigenvector, beta, closeness are presented. The authors referred how to apply centrality measures in an appropriate way, interpret results and understand the limitations and constraints of the standard centrality measures.

In their next chapter, Borgatti et al. (2013) put focus on different kinds of subgroups like cliques and their defining. It is simply because groups are often imbedded in networks. Hence, the authors tried to detail the similarities and differences of the main approaches in detecting cohesive subgroups, select appropriate methods and perform a cohesive subgroup analysis.

The book devoted the twelfth chapter for the aspect of equivalence where concepts such as structural and regular equivalence, profile similarity, blockmodels, direct method, REGE algorithm and core-periphery models are described in an in-depth manner with graphic illustrations.

Chapter 13 put focus on the analysis of two-mode data. The authors went through the representation of such data, through how to project two-mode data to a single mode effectively and how to extend one-mode methods to bipartite networks.

There is no doubt that there exist large networks that need a specific kind of analysis. This is actually the content of the fourteenth chapter. Borgatti et al. (2013) presented the challenges a researcher should understand when dealing with large networks and offered strategies to reduce the size of the problem. In addition, they referred to the correct use and interpretation of sampling techniques and ended the chapter with the identification of small-world and scale-free networks.

The final chapter deals with ego networks that involve the ego as a particular node. The authors discussed how to collect ego network data using standard personal network research design tools, analyze ego networks consisting of just ego-alter ties and both ego-alter and alter-alter ties. They ended the chapter with format and analysis of ego network data using appropriate software.

All in all, the book remains an excellent reference and guide to help a worker in SNA succeed in his analysis especially with the wide number of illustration, figures and examples presented all along the book.