Chapter 22
How to Study Online Networking:
The Role of Social Network Analysis

Fabio Corbisiero
University of Naples Federico II, Italy

ABSTRACT

Social media and social networks are pervasive in the daily use as well as in a number of applications. Social media and social networks are also intertwined, as the social medial platforms also offer the opportunity to develop and analyze social networks. Over the past two decades, there has been an explosion of interest in network research through social network analysis. Network research is "warm" today, with the number of articles on the topic of social media and social networks nearly tripling in the past decade. This interweaving has been a further breakthrough within field research yielding explanations for social phenomena in a wide variety of new ways. Social network analysis (SNA) has been recognized as a powerful tool for representing social network structures and information dissemination on the web. Here, the authors review the kinds of things that sociologists have tried to explain using social network analysis and provide a nutshell description of the basic assumptions, goals, and explanatory mechanisms prevalent in the field, with emphasis on SNA research methodology.

INTRODUCTION

One of the far-reaching explanatory schemes in contemporary sociology focuses on the concept of social structure that refers to patterning in social relations. Sociologically, the concept of structure may be used either to refer on the larger scale to the actors (group) of reciprocally defined social categories that are seen to comprise some social whole, or it can be used to refer to smaller scale social structures as configurations of concrete relationships among actors (individuals) without reference to a level of a larger societal totality. Most important for the science of social structure was what Simmel explained in «The Intersection of Social Circles» (1955): An actor may stand simultaneously in multiple social groups that overlap with each other at the site of that actor. Society is a "web of relationships" that is

not organized into a unified and harmonious set of structures but into multiple overlapping, often un-coordinated, and sometimes conflicting, ones (Simmel, 1992). With the exponential rise in popularity of online social networks (OSNs) in recent years, there have been a number of scholars who study and measure the topological properties of such networks. It is not surprising that the need of characterization or comprehension of interconnectedness between social reality and world-wide web has been a central issue for sociologists. Social media and social networks are pervasive in the daily use as well as in a number of applications. Social media and social networks are also intertwined, as the social medial platforms also offer the opportunity to develop and analyze social networks. Due to this interconnections there has been an explosion of new interest in social network research through the approach of Social network analysis (SNA). Social network research is back "warm" today, with the number of articles on the topic of on line social networks nearly tripling in the past decade. For sociologists, this interweaving has been a further breakthrough within field research yielding explanations for social phenomena in a wide variety of new ways. Social network analysis has been recognized both as a powerful paradigm and as a technical tool for representing social network structures and information dissemination on the web.

Traditionally, studies on "real" social networks have shown interesting properties such as "small world" or "six degrees" of separation effect (Milgram, 1967) or "scale-free effect" as well (Castells, 2004). A network is a structure of social actors who interact, collaborate, influence, and networks help to form a basis for shared norms, identity, and collective behavior and are present in different forms within off and online worlds. This perspective is well exemplified by the Stanley Milgram theory about the six degrees of separation effect (ib., 1967; Travers & Milgram, 1969). This theory analyses the probability that two randomly selected individuals would know one another by having participants forward a mailed letter intended for a target person. Of those letters that reached the target, the average number of exchanges was six. The experiment was interpreted as showing that all people are connected to one another by an average of six degrees of separation. This small-world concept has also been demonstrated in a replication of Stanley Milgram's original study via an email-based social research study to examine chains in forwarded email messages attempting to reach 18 target individuals across 13 different countries (Portnova, Frazer-Lock, Ladd, & Zimmerman, 2007). Moreover, scientists have demonstrated similar patterns on online social networks for small world phenomenon (Leskovec, 2008) or for scale-free effect (Bichler, 2008).

The nature and nomenclature of the connections may be rather heterogeneous, especially if we are talking of online ones. Within the most recent sociological literature the online social networks have been defined as follows: «web-based services that allow individuals to construct a public or semi-public profile within a bounded system» (Ellison, 2007, p.210). Furthermore, different social researchers named these networks differently, calling them: «computer-supported social networks (CSSN)» (Wellmann et. Al., 1996), «online social networks» (Chiu et al., 2008), «web-based social networks» (Golbeck, 2006), «web communities» (Flake et al., 2000), or «virtual communities» (Adamic, Adar, 2003). Facebook, Twitter, LinkedIn, Instagram, Snapchat, Pinterest, Reddit and all the other "virtual" social networks we know have become one of the most vibrant objects of study of the Social network analysis. Social research has made clear that the online social networks are seamlessly embedded within real communities and are rarely a separate second life in themselves. Some scholars argued that Internet and web sites not only enables actors to maintain and strenghthen existing real ties but they also aid some to forge new ties (Boase et. al. 2006).

In this chapter, we review the kinds of things that sociologists have tried to explain using social network analysis and provide a nutshell description of the basic assumptions, goals, and explanatory mechanisms prevalent in the field, with particular emphasis on research methodology and online social networks.

Related Content

Responsible Conduct of Research in a Globalized World: Challenges and Strategies

Billiah Nyamoita Gisore, George Ngwacho Areba, Josephine Orangaand Evelyn Wanjiru Njurai (2024).
Challenges of Globalization and Inclusivity in Academic Research (pp. 234-249).

www.irma-international.org/chapter/responsible-conduct-of-research-in-a-globalized-world/339857

Exploring the Profile and Behavior of Visitors to Crete

Oumayma Mzoughi, George Baltasand George Baourakis (2021). *International Journal of Strategic Engineering (pp. 55-67).*

www.irma-international.org/article/exploring-the-profile-and-behavior-of-visitors-to-crete/269717

Sustainability: An Overview of the Triple Bottom Line and Sustainability Implementation

Maria Salome Correia (2019). *International Journal of Strategic Engineering (pp. 29-38).*

www.irma-international.org/article/sustainability/219322

The Contemporary Ethical and Privacy Issues of Smart Medical Fields

Victor Chang, Yujie Shiand Yan Zhang (2019). *International Journal of Strategic Engineering (pp. 35-43).*

www.irma-international.org/article/the-contemporary-ethical-and-privacy-issues-of-smart-medical-fields/230936

Avoiding Project Failure and Achieving Project Success in NHS IT System Projects in the United Kingdom

Carol Matiranganaand Vernerand Dilshad Sarwar (2021). *International Journal of Strategic Engineering (pp. 33-54).*

www.irma-international.org/article/avoiding-project-failure-and-achieving-project-success-in-nhs-it-system-projects-in-the-united-kingdom/269716