

Social network analysis

Roberta Comunian tackles head-on some of the dilemmas and challenges which this promising new methodology raise for a researcher in regional studies.

Introduction

Social network analysis (SNA) is a field and methodology with a long history of theoretical and methodological development. As more emphasis in economic geography and regional studies is placed on local, national and global interconnections, SNA is rapidly becoming adopted by a growing number of researchers. In this context, SNA is used as a method to quantify and visualise flows of knowledge, interactions and other interconnections. At its core is the idea that networks are a key structure of sociological, economic and cultural development. A network is therefore intended as one of many possible sets of relationships (ties) that connect actors (or nodes) within a larger social structure.

The advantages of SNA lie not only in the representation capacity and the possibility to handle a large set of data through specific matrixes but also in turning qualitative into quantitative information and vice versa. A broad understanding of how different disciplines use SNA methodologies is necessary to understand its relevance to regional studies. Researchers need be aware of the many issues, dilemmas and research choices involved in studying networks. In this short review, I highlight five.

Defining nodes

In organisational studies, nodes do not represent a difficulty and can easily be categorised in relation to their location in the organisational structure. In economic geography there is a strong bias towards considering firms the only key node involved in knowledge and innovation networks. Nevertheless, it seems that in an economic geography landscape where firms are only one key aspect (alongside institutions, research organisations, support network etc.) deciding what constitutes a node or agent should be already a challenging exercise. The overlapping between individuals' and companies' networks can often be a questionable practice and the issue of how the position of the person interviewed influences the company or institution position in a network seems a relevant issue to address. The issue of geographical scale and boundaries of the nodes that are selected is also crucial. In a context where even the definition and scale of clusters is put into question, deciding which nodes should be in the network and which can be left out is another very little discussed issue.

Complete networks versus individuals' networks

Another key issue for SNA is the debate between 'whole networks' and 'ego-networks'. The study of 'whole networks' is embedded in organisational studies literature, and has been used in cluster studies. When studying 'whole networks' the major difficulty relates to defining network boundaries. Even for networks which are a well-defined cluster of companies, whole network approaches can only ever address relations between individuals identified as in the cluster. But we know that knowledge circulation and creation is not limited to corporate connections: whole network approaches risk

ignoring important interconnections. Likewise, whilst complete networks represent a sound methodology and allow statistically robust analysis, other approaches adopting 'ego-networks' (individuals' networks) present perspectives more closely representing respondents' real environments.

Multi-layered relations

Once nodes are identified and the scale of the analysis defined, the next challenge is understanding the kinds of relations that can be mapped and how they can be framed. SNA in economic geography shows a strong preference towards mapping economic connections, potentially because they are easier to define and therefore capture. This raises the recurrent problematic dichotomy for many studies between social and professional, trade and untraded, formal and informal relationships. One dimension often emerging from SNA's use in organisational studies is a lack of correspondence between knowledge as it 'should' travel within the organisational structure (or hierarchy) and knowledge, trust and social capital as it 'is' shared informally. Economic geography has paid only limited attention towards identifying how these economic and non-economic networks differ, overlap and interrelate.

Ethical issues and confidentiality

Economic geographers have put limited consideration into the ethical and confidentiality issues rising from the use of SNA. The considerations put forward in organisational studies research highlight how SNA requires more care and attention, from the ethical point of view, than conventional studies. This might also be important in economic geography research; in fact, it can be argued that policymakers could take an interest in this type of knowledge map at a regional level – as they previously have been fascinated by the cluster concept – and use such frameworks to judge the role of specific institutions or funding schemes.

Is mapping enough?

There is a question of whether SNA provides enough depth in understanding motivations and dynamics behind certain kind of relations rather than simply portrait a map and a possible quantification of these dynamics. Although in SNA the quantitative dimension seems not only relevant but predominant, in economic geography, where local observations, participatory work and qualitative methods are widely used, a sociogram and its numerical attribute might not be enough. Although network analysis can provide a sound base to describe relations and eco-systems, it is still important to consider its embedded limitation, which makes it hard to argue which consequences the network has on the individual or a firm. Longitudinal studies are possible - yet very demanding – but often the development of networks needs to be understood within a series of social, personal and geographical dimensions which are linked to qualitative studies.

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