Introduction to qualitative

social network analysis

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# Introduction

**Overview of quantitative social network analysis**

Many quantitative researchers conduct social network analysis—a set of tools and techniques to investigate how information, resources, friendships, associations, and other attributes extend across people, organizations, and other bodies. Typically, these researchers will generate a graph, similar to the following example. In this graph

* each circle, usually called a node, will often represent a person or organization
* each line or arrow, often called an edge, represents the association between these nodes; for example, a thick line could indicate the relationship is close



After they construct this graph, researchers often calculate a set of metrics. For example, researchers might

* calculate the betweenness centrality of every node or person; this metric indicates the extent to which this person bridges or connects the various segments of the network.
* Determine which attributes correlate with this metric; for instance, the researcher might discover that people who connect various segments of the network tend to be under 30.

**Limitations of quantitative social network analysis**

Quantitative social network analysis, although informative, does not answer vital questions about how and why these networks develop. For example, quantitative social network analysis does not ascertain

* why the relationships between the individuals, organizations, or nodes are established
* how these relationships evolve over time
* the barriers that impede the formation or maintenance of these relationships
* the effects or consequences of these relationships

**Overview of qualitative social network analysis**

Qualitative social network analysis is designed to address these limitations. That is, qualitative social network analysis explores why and how the relationships are established and maintained as well as barriers or complications. Typically, the researcher will conduct interviews, administer surveys, observe individuals, or analyse documents to resolve these questions. They might, for example

* first conduct a quantitative social network analysis or ask participants to describe their networks—such as the colleagues to whom they converse most frequently
* then conduct interviews in which they ask various questions about these relationships, such as the challenges they experience, depending on the research question

As this depiction implies, Heath et al (2009) and other researchers distinguish two main variants, as defined in the following table. Perhaps the most common approach that researchers choose is to complete a quantitative or conventional social network analysis first and then to apply the qualitative social network analysis later.

|  |  |  |
| --- | --- | --- |
| Variant  | Qualitative vs quantitative | Details |
| Qualitative social network **research** | Qualitative only | * The researcher asks questions to characterise the social network of participants
* The researcher might then ask questions to explore why and how the connections or relationships were established and maintained
 |
| Qualitative social network **analysis** | A quantitative phase usually precedes a qualitative phase—although the two phases sometimes coincide | * The researcher completes a quantitative social network analysis
* The researcher might then ask questions to explore why and how the connections or relationships were established and maintained
 |

**Aim of this document**

This document offers some insights into how researchers should conduct a qualitative social network analysis. This document assumes you have skimmed, if not read, the document on quantitative [social network analysis](https://www.cdu.edu.au/files/2020-10/Introduction%20to%20social%20network%20analysis.docx). However, only a basic understanding of social network analysis is assumed.

# When should you consider a qualitative social network analysis?

The following table outlines the circumstances in which a qualitative social network analysis may be suitable.

|  |
| --- |
| When should I consider a qualitative social network |
| You have already conducted a quantitative social network analysis and would now like to understand the causes, features, and consequences of these relationships in more depth |
| You would like to explore how and why information, resources, friendships, associations, and other attributes spread across people, organizations, or other bodies.  |

In general, researchers who conduct qualitative social network do not embrace positivism, in which they strive to uncover the true reality. Instead, these researchers tend to adopt

* interpretivism, in which they explore how individuals construct or understand their world rather than attempt to unearth one true reality
* pragmaticism, in which they are willing to adopt any paradigm that facilitates their attempt to address some problem.

# How to conduct qualitative social network analysis

**Illustration**

This section offers some insights into how to conduct a qualitative social network analysis. To introduce these principles, consider an example in which a researcher wants to explore how research candidates acquire knowledge and develop skills during their candidature.

**Develop the networks**

To conduct a qualitative social network analysis, researchers first need to construct a social network. Most researchers will apply one of two approaches. First, they might conduct a quantitative social network analysis. They might, for example

* ask PhD candidates at a university to indicate from which peers they acquired knowledge and information about their course and research
* utilise the responses to generate a social network or sociogram, using the principles that appear in [this document](https://www.cdu.edu.au/files/2020-10/Introduction%20to%20social%20network%20analysis.docx) to generate a graph that resembles the following display
* in this display, each circle represents one candidate, and each colour represents a distinct field



Alternatively, researchers can derive rough networks from interviews. To illustrate, some researchers utilize an approach called **egocentric sociograms** or sometimes **egonets** (e.g., Dobbie et al., 2018). Egocentric sociograms implies a social network that revolves around each participant separately. To generate these graphs, the researcher could

* present five concentric circles
* instruct participants to write their name in the centre or smallest circle
* invite participants to write names of other relevant individuals—such as colleagues in their PhD program—on the circles; the distance from the centre should be inversely related to the importance of each individual, as the following figure, derived from <https://acadeafic.org/2020/02/10/autophotography-and-egocentric-sociograms/>, demonstrates
* reveal this approach is not precise—and participants can never feel certain about where to attach each person



Several features will vary across studies. For example, depending on the research question, researchers might ask participants to indicate each person who

* they regard as important
* they perceive as helpful
* they contacted in the last week
* they met in the last month, and so forth

Each colour might represent a distinct category, such as the field of research. These networks can both guide subsequent conversation and, in some instances, may even constitute relevant data or displays.

**Conduct interviews about the network**

Researchers will then, after constructing these networks, tend to conduct interviews with participants—such as individuals or representatives of organizations. Typically, they might conduct between 40 and 60 interviews, but fewer interviews might be sufficient in particular circumstances. These interviews are designed to clarify

* the changes or circumstances that promoted or hindered these relationships
* the features of these relationships
* the consequences of these relationships.

Usually, researchers will conduct semi-structured interviews. Typical questions might be

* when did you develop the relationships with peers from other fields?
* what events facilitated or hindered the development of these relationships
* how would you characterise these relationships?
* how have these relationships changed over time?
* what did you gain from these relationships?

Rather than interviews, other methods may be suitable. Occasionally, researchers might invite participants to complete surveys instead, for example.

**Analysis of the data**

To analyse the data, most researchers apply techniques they would utilize to explore other interviews, such as [thematic analysis](https://www.cdu.edu.au/files/2021-02/Introduction%20to%20thematic%20analysis.docx) or content analysis. They would also consider the principles of exemplary qualitative research, outlined in [this document](https://www.cdu.edu.au/files/2021-02/The%20features%20of%20excellent%20qualitative%20research.docx), such as audit trails, memos, debriefing, member checking, and so forth. To illustrate, they might

* identify key themes, such as strategies people applied to develop relationships
* relate these themes to various metrics—such as discover that people who apply a particular strategy tend to be the most central or important to social networks.
* consider which individuals, organizations, or nodes seem to be missing—such as reference to an associate supervisor but not a principal supervisor

# Examples

The principles of qualitative social network analysis are straightforward. However, to be adept in this method, you should familiarize yourself with past examples and the insights these examples generated. Familiarity with these insights could help you clarify the research question, design excellent questions, and interpret the data. The following table presents a few examples.

|  |  |
| --- | --- |
| Example | Insights from this study |
| This study explored how various organizations collaborated to promote a social movement around food (Luxton & Sbicca, 2020)  | * The organizations that were most central to this movement tended to have provided services in this region over many decades
* The organizations that were most central to this movement tended to operate from many sites
* The organizations that were most central to this movement became important after they collaborated to attract funding
 |
| This study examined the social network of gamblers, exploring which individuals helped these gamblers overcome their addiction (Dobbie et al., 2018) | * Gamblers often conceptualised their ex-partners as central to their social network, because they affect the lives of their children
 |
| This study examined how technology diffuses across teams (Bertolotti & Tagliaventi, 2007) | * Individuals often formed self-managed teams, and these informal teams facilitated the transfer of knowledge
 |

# References

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