CHAPTER 12

Empirical research skills

At the end of the last chapter we reached the final part of the book. But what's this? Two more chapters? How and why? I thought we were done! Well in many ways we are. But there still looms one large project for you to undertake in your degree, that is the dissertation or thesis. That task is designed to bring together all the skills we have looked at so far, as well as all your knowledge and ideas from the course, putting them together in one big piece of original writing, fully designed by you. In the very final chapter of the book (13) we will look at how to bring these things together, but first there is just one last skill that we need before we can undertake a dissertation or thesis, and that is knowing how to carry out empirical research.

There are loads of full length books on this subject, so this chapter will only offer a quick overview of the skills you need for doing research. We will go through the process of designing your research and then look at a couple of the methods most commonly used, including key techniques, interviews, surveys, content analysis, digital ethnography, and some basic network analysis. You should though consider this a springboard to using other texts to help you perfect this.

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Let's start, where we should always start, in designing a research project, and that is with a couple of rather complex sounding words, these are **Epistemology** and **Ontology**. Don't panic – you already know what these are (kind of). In a very simple way, epistemology refers to questions about what knowledge is and how it can be acquired. Ontology is the philosophical study of the nature of being, becoming, existence, or reality, as well as the basic categories of being and their relations. Okay, that still sounds a bit complex. But, they are both things we already consider, although we probably don't think about them much until our professors ask us to. Let's try one more simplification, *Ontology* is about how you think the world works, and *Epistemology* is how you think we can study it (Phew! Got it!). This will affect our methodology.

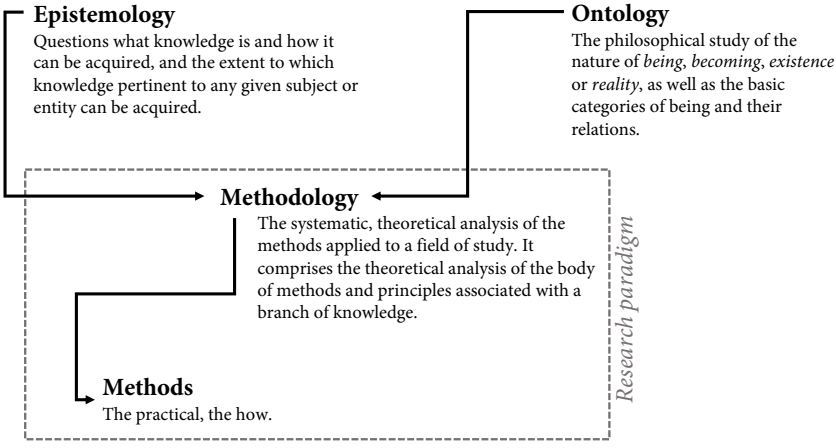
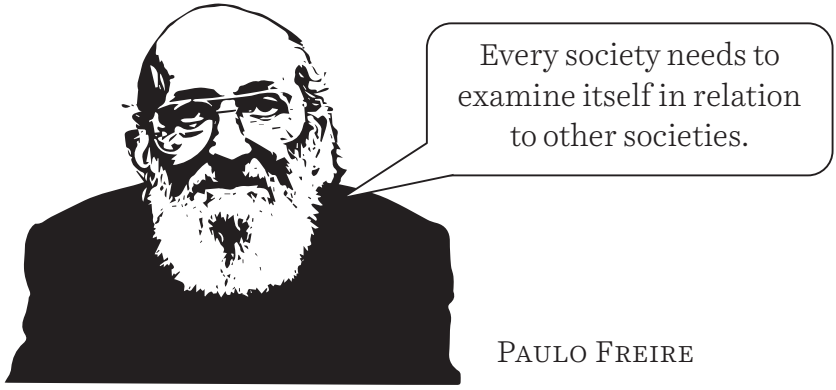


Figure 12.1: Methodologies.

Before we look at that though, let's try and explain this a little further. Brechin and Siddell (2000) highlight three different ways of knowing about our world: There is **empirical knowing**, the kind which is based on quantitative or qualitative research study – like in your thesis. There is **theoretical knowing**, which uses different theoretical frameworks for thinking about a problem, sometimes informed by research, this is basically your literature review. And there is **experiential knowing** (also known as 'tacit') that is knowledge built up over a number of years of practice and experience. This is the one we experience as children when we learn not to put our hands on the hot oven more than once. We also continue to learn this way all through our lives. It is not easy to keep these separate though, and there is a lot of interaction between them, but this chapter is mostly dealing with that first type, the empirical knowing. It is your literature review that deals mostly with theoretical knowing, and your reflections on the success of your project that employs more experiential knowing.



Methods and methodologies… what's the difference?

In class you will hear your tutors talking about methods and methodologies. This can become rather confusing; the words sound similar and in many ways they have similar meanings. Worse, as this passage from the *American Heritage Dictionary* (1992 edition) states:

> *in recent years … 'methodology' has been increasingly used as a pretentious substitute for 'method' in scientific and technical contexts. This usage may have been fostered in part by the tendency to use the adjective 'methodological' to mean 'pertaining to methods,' inasmuch as the regularly formed adjective 'methodical' has been preempted to mean 'orderly, systematic.' But the misuse of methodology obscures an important conceptual distinction between the tools of scientific investigation (properly 'methods') and the principles that determine how such tools are deployed and interpreted—a distinction that the scientific and scholarly communities, if not the wider public, should be expected to maintain.*

Well now, that makes things much worse doesn't it. People mix-up the words all the time. It is though unlikely your professor will, but in other contexts these mix-ups can lead to confusion, so let's make things simple:

Methodology	**Method**
Explains why you are going to undertake research in a particular way. It draws upon literature, epistemologies and links your methods to the theories and literature review.	How you will do the research. E.g. interview, survey.

As you can see, without a methodology you won't be able to tell the reader why you are using a particular method, and that is the bit that gives you the most marks. When it comes to writing a dissertation, the markers are rarely overly interested in ***what*** you do, but are much more interested in ***why*** you do it. One of the main justifications you will need to make is about whether you are using quantitative, qualitative or mixed methods approaches – but what are those? Well, read on to find out.

The methodology: quantitative or qualitative research?

Debates have been going on for ever about which is better, quantitative or qualitative, but what do they actually mean? Well in very simple terms, quantitative research normally deals with numbers, and qualitative works more with things that can't be counted so easily. The debates about which is better rage on because each has its own strengths and weaknesses, and worse, these change depending on what we are doing, upon our *epistemological* approach and our *ontological* outlook. You may not feel like this history is all that important, but is very interesting. Sadly, though we don't have time to look at it in this book, so you are saved from a history lesson, instead we will answer the question you actually want to know the answer to – which method should you use?

Figure 12.2: Quantitative or qualitative research?

Quantitative research

Quantitative research is the numbers one. It is often seen as more scientific, and it is used much more in the hard (or true) sciences or in experiments (the kind where you have to wear a white coat). It uses very traditional mathematical techniques and statistics (eek) to make very strong, and often conclusive, sets of results. While it is often used in those fields, it is also very useful for us in media

and communications, and the social sciences more broadly. The methods use very standard formats, which means we can repeat them quite easily to show comparisons or to check results match in other places. We could use quantitative research to analyze social media data, to look at the content of films, to unlock the secrets of media management or to conduct audience surveys, as well as many other things. You will need a basic understanding of maths, but don't go running for the hills just yet, let's see the advantages and drawbacks of quantitative research:

Quantitative methods	
Advantages	**Disadvantages**
Quantitative research is very good at helping us to reach a definitive answer, at least about the sample group we are working with. It can be used to prove or disprove a hypothesis, and to show mathematically the degree to which this is true. Quantitative methods have also not changed for a very long time, and so they are easy to reproduce, and when you write about them people will understand what you are writing about. And if you do it correctly it means that people can replicate your work, which is often seen as making the work more rigorous and 'proper'.	Quantitative methods can be difficult, expensive and time consuming. While doing a survey or counting content might seem like easy options, at degree level you need to collect very large amounts of data, and from the correct sample (more on that later). This isn't always very easy, and getting enough data to make a statistically supported statement can take a lot of work. Talking of statistics, you will also need a pretty decent grasp of Maths to be able to analyze your data. The final disadvantage is that often we are looking at social phenomena, and these issues are more complex that the yes/no answers that quantitative methods produce.

Qualitative research

Qualitative research is even older than quantitative. The ancient Greek philosophers would pass the time observing the world around them, trying to make sense of what was happening, and why. These methods are often used to study human behaviour, feelings, habits or emotions. It relies much more on talking with people, or observing how they interact, be this in real life or online, and include things like interviews and focus groups. We normally use qualitative methods when we aren't sure what we are going to find out, to explore new ideas that might then lead us to develop a hypothesis for quantitative research

later. Qualitative methods are great, but because they are so flexible, they can be hard to design well, and often can't be repeated. Let's have a closer look at the advantages and disadvantages of qualitative methods:

Qualitative methods	
Advantages	**Disadvantages**
Qualitative methods are really well suited to projects where you won't get a yes or no answer, or things were the results are going to be more complex or individual. In many ways qualitative methods are easier, and because of how they are designed they almost always bring in data – even no data is interesting to qualitative researchers because they can ask, why didn't that happen? Samples sizes don't have to be so big, although they still need to be carefully designed, and this can make qualitative methods cheaper and quicker too.	Despite what that column to the left says, there are a great many difficulties in designing and carrying out qualitative methods. They require a lot of planning and careful thought to be able to get them right and to ensure your results mean something. They will also only give you a general feeling about something, you can't produce a definitive answer, and this can also mean your personal opinion can affect the results. Finally, the answer you do produce will normally be limited only to the small group you have worked with, rather than being able to say it is true for the whole population.

Mixed methods

You might have also heard about a mixed methods approach, this is simply the combining of qualitative and quantitative methods in a way in which they support each other and help you to reach a more concrete conclusion. They can be combined in a whole range or ways, but it is most common to undertake qualitative research first (perhaps an interview), to find out new information, and then to follow up with quantitative (perhaps a survey) to see if these findings apply to a larger population. The great guru of mixed methods is perhaps John Creswell (2013), and you might want to take a look at one of his books on the subject. Of course, your lecturers might have another book they prefer you to use, so be sure to check your reading lists.

Creswell (2013) also offers us some great advice about how to write our methodology chapters. You can use the template below to help you. Thank you, John!

Creswell has given us a really helpful guide about how to write your methodology:

Creswell's (2013) script for quantitative studies

The theory I will use is _____(*theory name*). It was developed by _____ (*origin, source, developer of the theory*), and it was used to study _____ (*topic where one finds the theory applies*). The theory indicated that _____ (*identify propositions of hypotheses).* As applied to my study, this theory hold that I would expect my independent variable(s) _____ to influence or explain my dependent variables _____ because _____ (*provide rationale based on the logic of the theory*).

Creswell's (2013) script adapted for qualitative studies

The purpose of this _____ (*phenomenological, grounded theory, ethnographic, historical, case)* study is to _____ (*Understand? Describe? Develop? Discover?)* the _____ (*central phenomenon of the study*) for _____ (*the participants*) at _____ (*the site*). At this stage in the research, _____ (*central phenomenon*) will be generally defined as _____ (*a general definition of the central concept).* The theory guiding this study is _____ (*identify theory and cite theorist)* as it _____ (*explain the relationship between the theory and your focus of inquiry*).

Methods

Now we have decided which methodological approach you are going to take, let's have a quick look at some common methods. Remember, this is just a very quick overview of the methods. There are loads we could use for example:

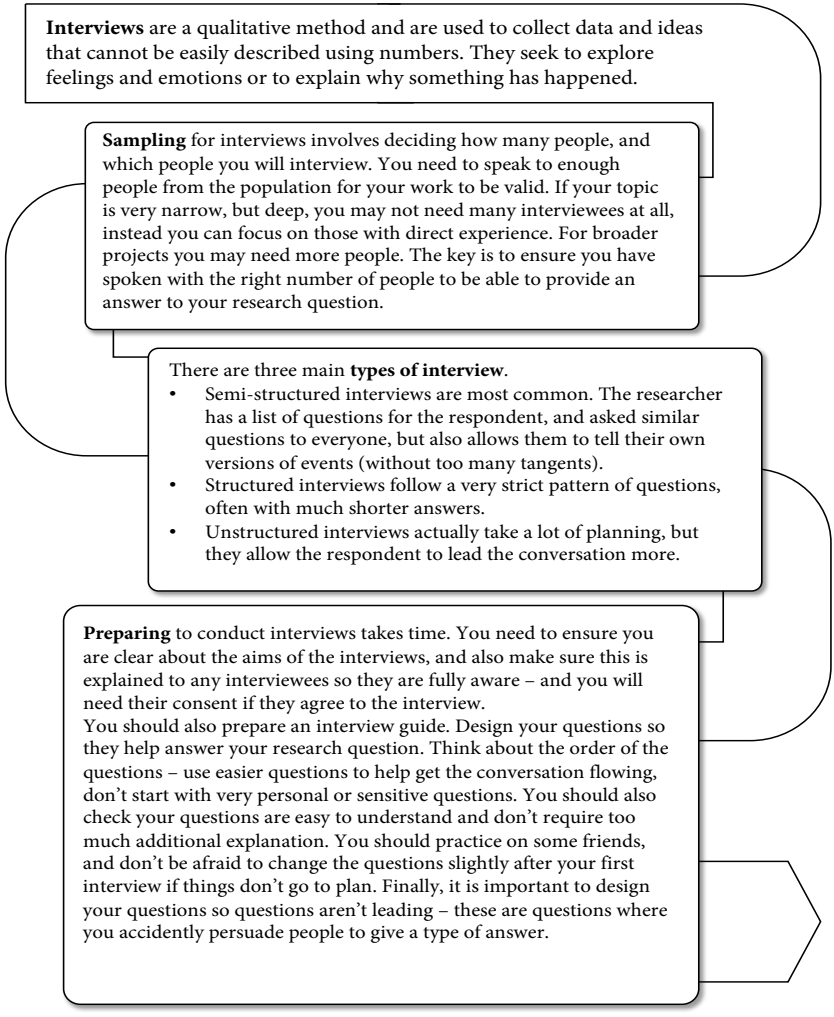
As this isn't a methods book though, we will only be able to look very quickly at a few quick tips for designing different types of research. You should keep in mind that these are almost dangerously short introductions to these methods and that you should also consult some other more methods-based books to help you get these right. However, over the next few pages we present some simple flow diagrams of the processes of carrying out some of the more common types of research methods in the field of media and communications. We will cover the more familiar interviews and surveys, both of which are a lot harder to do right than any of us think – sorry to bring bad news. We will also have a look at a couple of less familiar examples including content analysis, which examines the way in which different texts are formed, designed and understood, and what this might mean about how they represent the world and how the world works. Following that we will look at some very basic network analysis and the tools you might use to undertake this.

Digital methodologies

The methods discussed over the next few pages might also be used as part of a **Digital Ethnography** methodology. This way of working, which is also sometimes called netnography or virtual ethnography or even cyber ethnography, is at its simplest a way of conducting research about the lived experience in the online world. It borrows research methods from ethnography and adapts them to help with the study of communities and cultures created through computer-mediated social interaction. Tools of analysis such as Network Analysis and Content Analysis can form an important part of a Digital Ethnographic research project. For more information on this kind of work see Pink (2016) or Murthy (2008; 2011; 2013).

Each of the methods is covered in several pages, which is nowhere near long enough to discuss all of the issues and benefits of each, but is just the right size to help you choose which methods you might like to explore further, and is also the right size to photocopy and stick on your wall near your desk, or to slip in your pocket if you need a quick guide to that information while you are out and about doing your research. Right, let's get started … first up, interviews:

Interviews


Interviews are a qualitative method and are used to collect data and ideas that cannot be easily described using numbers. They seek to explore feelings and emotions or to explain why something has happened.
Sampling for interviews involves deciding how many people, and which people you will interview. You need to speak to enough people from the population for your work to be valid. If your topic is very narrow, but deep, you may not need many interviewees at all, instead you can focus on those with direct experience. For broader projects you may need more people. The key is to ensure you have spoken with the right number of people to be able to provide an answer to your research question.
There are three main **types of interview**.
• Semi-structured interviews are most common. The researcher has a list of questions for the respondent, and asked similar questions to everyone, but also allows them to tell their own versions of events (without too many tangents).
• Structured interviews follow a very strict pattern of questions, often with much shorter answers.
• Unstructured interviews actually take a lot of planning, but they allow the respondent to lead the conversation more.
Preparing to conduct interviews takes time. You need to ensure you are clear about the aims of the interviews, and also make sure this is explained to any interviewees so they are fully aware – and you will need their consent if they agree to the interview.
You should also prepare an interview guide. Design your questions so they help answer your research question. Think about the order of the questions – use easier questions to help get the conversation flowing, don't start with very personal or sensitive questions. You should also check your questions are easy to understand and don't require too much additional explanation. You should practice on some friends, and don't be afraid to change the questions slightly after your first interview if things don't go to plan. Finally, it is important to design your questions so questions aren't leading – these are questions where you accidently persuade people to give a type of answer.

As part of our preparation we can consider different **types of questions**. Kvale (1996) describes nine types of questions, and that text is a good one to read if you are doing interviews. Let's look at some of these;

- Introducing questions, just to get things stated
- Probing questions try and get more detail from people
- Follow-up questions encourage the interviewee to say more on a topic
- Direct questions, are quick, with simple yes or no kind of answers
- Indirect questions seek to get true opinions on the topic
- Specifying questions ask for more specifics on what happened following a story from the interviewee
- Structuring questions help to move the conversation forwards; interpreting questions will help you to clarify points
- Silence, often forgotten, but allows the respondent time to think and answer and for you to really listen to them

It is important to keep a **record of the interview**. Ideally you will record the interview with a digital recorder, but you can only do this with the consent of the interviewee. If they don't want to be recorded then ask if you can take notes. And remember if something is 'off record' or they don't want you to use their name then you will need to respect that, regardless of how juicy the information is.

Following the interview you may need to **transcribe** what has been said. How much of this you do will depend on your university and on how you will analyze the interview. Warning: Transcription is a very time consuming process.

You also need to consider your analysis. Will you simply pick out key quotes to illustrate your ideas or will you turn your interview into quantitative data by labelling key words and phrases allowing you to count instances of ideas across multiple interviews? This is what is called coding an interview and there are lots of guides as to how to do this, software like Nvivo also really helps. It is worth considering how you will analyze your data before you start any interviews. Remembering that just like other parts of the method, the analysis should be designed as to best answer your research question, not just what seems fun.

Surveys

Surveys are a quantitative method and are generally used to collect data that is more rigid, and which and be easily turned into numbers. They require at least some basic maths skills to be able to analyze well.

Choosing who you will survey, **sampling**, is really important. You should only give your survey to people who will help answer your research question, and every respondent should be hand chosen (either through random or purposive sampling). You can't just give a survey to anyone, and see if they fit the demographics later, you need to plan things a little more than that – especially if you are doing your survey online, where you should add 'qualifying' questions.

When **designing your survey**, you need to think carefully about the types of questions you are asking. Make sure you start with easier questions, with short answers, and leave open-ended questions with longer answers, and personal information until the very end. Other types of questions you might like to use are:

Multiple choice: Here you give a range of possible answers. You must make sure you include all possibilities here.

Ordinal scale questions: Here you ask people to rank ideas or a range of items. For example, 'Place the following in order of importance when choosing a social media platform … '

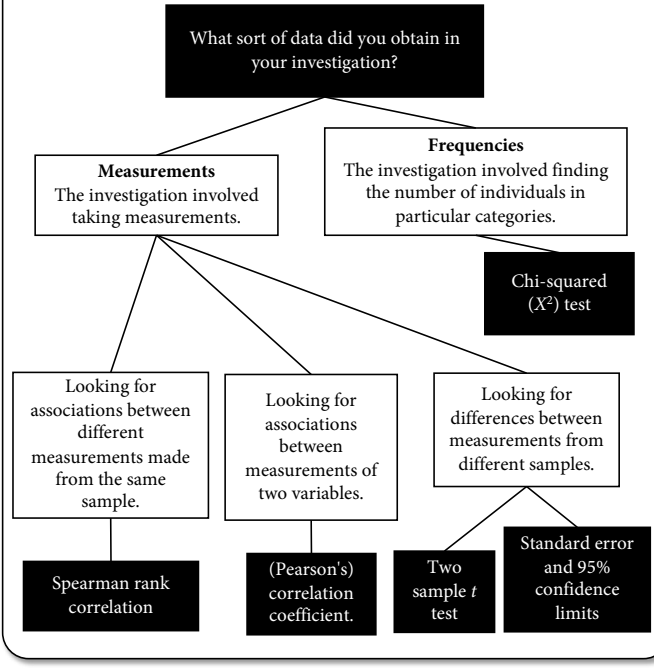
Interval scale questions: This is a very common type of question and asks people on a scale how they feel about something. 'On a scale of 1 – 10, how satisfied are you with this book, 10 being very satisfied, and 1 being very unsatisfied' You must make your scale balanced.

Ratio scale question: This asks people to give you an measurable answer; often this is used with ordinal scales too. (e.g. How many hours are you on Instagram each day?).

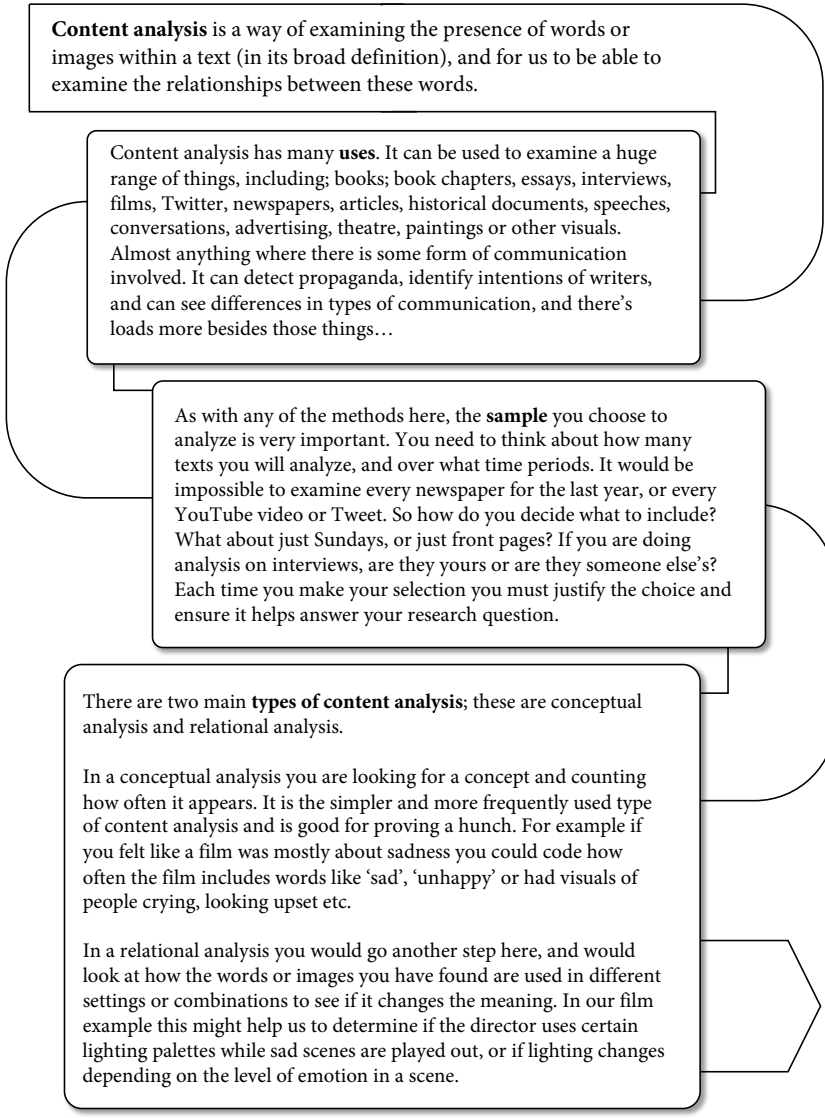
Open question: here you ask the respondent to give you much more information. People are often less keen to answer these as they take longer. E.g. 'Why is this your favourite class, explain?'

When you are **conducting the survey**, it is important you do this in a well-planned way. You must make sure you introduce yourself and the research and ensure that the respondents know what will happen with their data. Respondents should have the option to skip questions or to end the survey and withdraw their information. You should also always test your survey on a small group before sending it out. This will help you find any small (or big) mistakes).

When you finish collecting the data, you need to **analyze** the information. While some simple graphs can help, at a Masters level you should be considering applying some statistical analysis to your data. While it is beyond the scope of this book to teach you statistics, the chart below will help you in choosing which statistical tools to use on your data. Also consider using software such as SPSS, which is a little more powerful that other spreadsheet tools.



Content analysis



To carry out a content analysis you need to follow these steps;

1. Select the materials (texts) that you will be analyzing.
2. If these are no written texts, then transcribe the text in full.
3. Decide on the type of analysis you will undertake (frequency or concept).
4. Decide how many concepts to code for and how you will distinguish between them.
5. Develop a set of rules for how to code the text, and make sure you write these down to keep your work consistent – they should also appear in your methodology to keep your work transparent.
6. Decide what you will do with irrelevant information.
7. Now read the text, make note of every time a word or idea you are coding appears, either by counting or by highlighting in a set colour to count later.
8. Categorize the results of your coding.
9. Identify if any of those categories can be linked or if there are any emerging themes.
10. If you have more than one text, repeat steps 7-9 with each text.
11. Once all the data is categorized into major or minor categories or themes check it over to ensure there are no mistakes.
12. Now you can begin to see what patterns have emerged, whether categories need to be merged or changed. And you can start to make either qualitative or quantitative analysis of the results shown.

There are lots of **digital tools** available to help with content analysis, and if you are working with a large number of texts it is well worth using them to help with the process. NVivo or Atlas.ti are both very good, and your library will likely have a subscription to one or the other of these. You can also find more information in Carley (1992), Solomon (1993) and Weber (1990). Examples can be found in Roberts (1987) and Adams and Shriebman (1978).

Network analysis

Network Analysis is to help us understand the relationships that occur inside a network and can help us to see where power is held or who influences the shape of the community.

As with all out methods **sampling** is very important. We need to know how much of a network we are going to analyze, but here we also try to collect as much data as possible so we can see the full extent of what is happening. Our main job to ensure we only collect the data related to the network we are studying, but then we need to try and be as complete as possible. This is easier in digital studies, but always important.

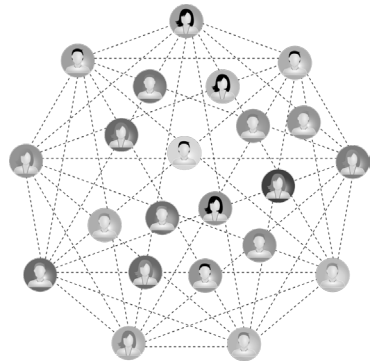
The **data** for network analysis can be collected from many different places. Oftentimes we are using digital data from other sources such as Facebook or Twitter in order to make our analyses. It can be difficult or expensive to collect this data due to restrictions by these companies, and the tools for scraping such data can be complex to use. Before undertaking a network analysis project, be sure that you are able to collect the type of data you need, and in a large enough quantity to be able to undertake the work. Here are some suggestions of how to collect digital data:

Blogs – If you are running a blog on the WordPress platform and have admin rights interactions can be downloaded through plugins such as WP All Export – be warned, the data output will need a lot of cleaning to use.

Twitter – Data here can be hard to get hold of, but tools such a TAGS can help you both download and carry out some analysis of tweets: tags.hawksey.info

Other social media – Platforms frequently change their API to make mass downloads harder, but tools such as netlytic.org try to keep up to allow data scrapes from Facebook, Instagram, YouTube, Twitter and RSS feeds.

The analysis of our network normally begins with **creating a visualization** of the network. To do this we need to ensure our data is organized into nodes (people, organizations or events) and edges (their interactions between these). In a simple visualization we can make nodes and edges bigger depending on how many interactions they have. In more complex analysis we can use software tools to run analysis for us to show things like clustering, modularity and centrality, all of which will tell us a great deal of information about the way in which a network operates. None of these things are possible without some software though, and little bit of basic understanding of statistics. One of the simplest tools you can use, and it is free and open source, with plenty of plugins is Gephi, which can be downloaded from gephi.org.



It is beyond the scope of this book to take us through all the types of analysis that you could run on a network, but try downloading some datasets and some software and having a play around – it might inspire a research topic. Just don't let it become procrastination.

Network analysis is becoming ever more popular as a method, as with all methods you need to make sure you are using it because it answers your research question, not just because it is fun. However, its popularity means there are lots of **useful guides** and tools available to help. Try the guide by the Home Office (2016) or Smith et. al. (2009), or take a look at analysis in action in Hu and Racherla (2008) or Schreck and Keim (2013).

This is a really very, very short introduction to research methods, and you should also seek advice from your tutors and other texts to ensure you are doing your research correctly, and following the ethical guidelines of your institution. Doing research for your dissertation is probably one of the most interesting and exciting things you will do during your studies, a real chance for you to get your teeth into the subject in the way that you want to, and to discover something

that isn't just interesting to you, but which adds to the body of knowledge about a subject globally. Like we have said though, this chapter has been a very short introduction to some of the skills you will need to help you carry out this research, and you should consider picking up some other books on the subject too in order to ensure you produce the best possible research work.

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