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## Strategies for analysing qualitative data – how to get started with making sense of all that material you've collected

Anette Hallin is Professor and Chair of Organization and Management at the School of Business and Economics at Åbo Akademi University of Finland, and Professor and working member of the NEW Management Practices-group at the Division for Business, Society and Engineering at Mälardalen University, Sweden. Her research is about the relationships between technology and organizing and performance of work, especially the that taking place in projects and temporary organizations.

I've really been struggling to write this chapter. I have compiled notes, collected articles, jotted down ideas and thought-fragments in a digital folder that by now contains a considerable amount of material, but every time I have sat down to write the actual text it has eluded me. When I no longer could postpone producing it – I had taken advantage of the editors' generous time-extension too many times – I was on a long flight with my computer and had lots of time, which gave me very little choice than to sit down and get on with it.

When thinking more closely about the task it dawned on me that the writer's block I had experienced when trying to get started on this chapter is quite similar to that which many doctoral candidates experience after having collected copious amounts of empirical qualitative material about a phenomenon. It's all there; the notes, the interviews, the transcripts, the documents, maybe even video recordings – but now what? How do you actually get started analysing an extensive amount of qualitative data?

In this chapter I will provide some ideas as to how to go about analysing qualitative data. These are based on my experiences whilst studying and subsequently working at Universities in Northern Europe where doctoral candidates are expected to undertake research for a thesis, rather than a dissertation. I will stress the importance of writing regularly – with or without a clear strategy – since a good analysis emerges processually when muddling through the empirical material. I will also urge you to reflect upon the state of your material, and to organize it in a way where it is readily available to you. Here I will also touch upon the question if all recorded material needs to be transcribed or not. Then, I will reflect upon the possibility (and difficulty) of designing a strategy for the analytical process, which depends on the degree to which your work is inductive. I will provide an overview of

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three analytical strategies: sorting, reducing and building an argument, and finally, I will highlight ways of making sure the presentation of your analysis meets the expectations of scientific rigour.

### Just start – also without a plan

The first thing to realize is that an analysis won't write itself. This may sound obvious, but it hides a secret that may be uncomfortable to some readers of this chapter: you need to sit down and start analysing your material even if you *don't* have a plan for how to go about it. The observant reader who remembers the title of this chapter will of course now say "but I thought this chapter would be about strategies for how to do the analysing...?". Don't worry, it will. But I think it is important to point out that for a researcher performing qualitative research, "strategy" is not necessarily something that is fully planned in advanced and then executed. This conceptualization of strategy is for the quantitative 'geeks' who believe in a positivist step-by-step-performance of research.

In qualitative research a lot of the research process – including that which take place in the analysis stage – is emergent and iterative. This means that even if you don't have a plan for how to go about the analysis work you need to start analysing. I like to think about this in terms of unwinding a tangle of yarn: you need to find one end and start following it. In practice, this may mean listening through your recordings, sitting down and reading through your transcripts, or going through your notes, and writing down whatever thoughts pop up in your head as you listen or read. As you do this, make sure to make explicit references to whatever it is that evokes the thoughts that occur, maybe in footnotes<sup>1</sup>. This will make it easier for you to go back and expand and re-evaluate what you write at a later stage. Keep going, even though you may feel that what you write is of no value – most likely the text you produce initially will not end up in the final version of your thesis, but it will definitely lead to other, more polished, texts. Also write down whatever links you make in your head to literature you have read. This will definitely prove useful later, when you write the discussion part of your thesis.

Inspired by a piece of advice I got myself as a junior researcher, I urge my doctoral candidates to produce at least 800 words every day when they are in the analysis-phase of their theses work. It was professor Rolf Solli, at the time Director of Gothenburg Research Institute who, when welcoming me as a postdoc to GRI, said that "we only have one rule here and that is that you write 800 words every day". As this proved a very useful piece of advice, I have adopted it in my own supervision practice.

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<sup>1</sup>This footnote is only here to set an example and does not contain any information that is useful to the reader, but if this text actually was my first draft of an analysis of qualitative material, the footnote would look something like this: "Where to start"; word document in Dropbox-folder "How to keep your doctorate on track"

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It may sound strange to have as a sole ambition to write 800 words per day – surely *what* is written is more important than the amount of words? I would actually argue that it isn't. At least not in the getting-started-phase of analysing your empirical material. The 800 words do not need to be perfect, they don't even need to be written in a way that's good enough for other people to read. Of course they need to be related to the material – your supervisor will not be happy if you produce a crime story instead of a thesis – but as long as that which you write is related to your empirical material, the important thing is that you actually produce *text*, since this is what will move your thinking forward.

I know that some people find this “just-sit-down-and-get-started”-advice difficult; they want a plan before they commence. But that's like waiting to walk before you know you actually *can* walk – waiting for it will not make you learn. You need to practice walking in order to learn how to walk, and I'm sure this is exactly what you did when you were a toddler, so you have actually done it before, even though it may seem a long time ago.

### Taking a step back: in what shape is your empirical material?

Before going into the actual strategies for analysing qualitative material I also want to take a step back and point out that it is good if you make sure, before you (force yourself to?) sit down and get started on the analysis work, that your empirical material is readily available to you. This will probably mean transcribing interviews and meetings, writing up notes, and making sure that you know exactly in which digital or physical folders the different documents you have collected may be found, and under which headings. It is definitely useful to produce an overall list of all the empirical material you have collected, with notes as to where the different materials can be found.

If you have performed observations or undertaken some sort of ethnographic study you have probably already made sure to take good notes, but you may not have transcribed recordings. To transcribe interviews and meetings is very useful, both because it is easier to go back to written transcripts than to the recordings during the process of analysing as a lot of the analysis entails writing, and because it actually will help you getting started with the analytical work. Most likely, you will make connections to theories and previous research while you transcribe, and the writing down of such thoughts as 'notes' is actually a start to the analytical process. In fact, if you are performing a grounded theory-analysis, the reflections you make while going through the empirical material may perform the function of second level analysis, which, in turn, may lead to theorizing in a later stage.

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A common question when it comes to transcribing is “do I really need to transcribe ALL of my empirical material?”. The simple answer is “no”. BUT (and please note that this is a capital-letter BUT), it makes good sense, for three reasons.

First of all, it should be possible for anyone to scrutinize your research, by for example assessing the quality of your findings – it is about scientific rigour. It does sometimes happen that opponents or examiners ask to see the empirical material upon which a thesis is built, and in this case, transcripts are better than recordings both because they are easier for the reviewer to review, and because it is easier to make sure that the respondents remain anonymous in a transcript than in a recording, where voices and explicit references may make it easier to identify the respondents.

Second, transcribing the material will both deepen your insight into and knowledge of the empirical material, and this will help you get started on the analytical process, as described above.

Finally, if you already know that you want to undertake language-oriented analysis like discourse analysis or a conversation analysis you definitely need to transcribe the material yourself since these analytical methods involve paying attention to language in a particularly close fashion.

### Strategy – depending on level of induction

The extent to which it is possible for you to design a strategy for your analytical work before you start following a certain end of the tangle of empirical material depends on the degree to which your research process is inductive. It may be that you started out with a rather precise research question, collected material about it and now you are looking for the answer to it in the material. In this case your question will probably be the at the end of the tangle of yarn from where you start.

In my experience this type of ‘question-seeking-an-answer-type-of-process’ is rather uncommon for doctorate students though, since they do not only require prior research experience, but also in-depth knowledge of previous research about the phenomena at hand, otherwise it is difficult to formulate an interesting research question prior to collecting empirical material.

Instead, answer-looking-for-a-question-processes are much more common in doctorate work. In these, more inductive processes, other questions than the initial ones become relevant after the study has been undertaken. This means that the analytical work is messy and explorative, since the purpose of the analytical work is not about formulating an answer but formulating the (most interesting) question to one (of many potential) answer(s) that may be found in the empirical material. And this, in turn, means re-thinking the front-end of your thesis too, and re-formulating the problem that motivates the research question.

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## Dealing with mess: sorting and reducing

Regardless if you are involved in a question-seeking-an-answer-process, or in an answer-seeking-a-question-process, it is very likely that your empirical material will appear messy. If you have, up until the analysis-stage, followed a carefully designed research process you may be surprised, and even annoyed, about this. But don't worry, mess is normal in qualitative research. There are two ways of dealing with mess which my students and I have found work well: sorting and reducing (and this is where we get into the strategies for analysing qualitative data)(Rennstam & Wästerfors, 2018).

The *sorting* of empirical material can take place in various ways but generally speaking it always aims at sorting the empirical material according to a predefined principle. One way is to sort the material *chronologically*, for example by applying a narrative method whereby you write one or several chronological narratives based on the empirical material. The narratives can differ depending on who is the protagonist and the antagonist; from whose perspective the story is written; what is the turning point of the story etc. Another common sorting strategy is to organize the material *thematically*, for example by applying a thematical analysis by either formulating themes that emerge out of the empirical material, or by looking for empirical material that fits themes identified in literature.

There is a lot written about these strategies and I will not go into them more in detail here but the actual sorting work can either be done by hand or with the help of software. If working by hand, you may for example first summarize events on post-it-notes and then organizing these on a wall according to the order of the sorting method you have chosen. The various software available commonly offers ways of coding bits of empirical material and through this making it possible to search and visualise the data depending on the codes. To use software to sort messy empirical material may seem like a good idea, and very often it is, but please bear in mind that no software will do the actual analysis-work for you, it will only organize the material for you in the way that you tell it to. You will still have to draw the conclusions from the patterns that emerge. There is also a risk, that I think is larger when using software than coding an empirical material by hand, that you don't see the bigger picture of your material, for all the nitty-gritty details that the codes entail.

The other way of dealing with the messiness of empirical data is to *reduce* it. This will happen automatically as you sort your data and decide which patterns you are interested in as not all data will fit in the story-line that you build through the sorting process. There will be a lot of notes, transcripts, documents etc that will not appear relevant.

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Reducing can however also be a strategy in itself. The reducing strategy is often the result of a more serendipitous analytical process where the original focus is not on overall patterns, but specific events, instances, quotes or images in the empirical material that for some reason “stick out” and come across as particularly interesting.

Sometimes it is difficult to know *why* a particular event/instance/quote/image is fascinating, but I would say that the feeling that it is fascinating, is enough to justify further exploration. Such exploration can for example be done by first writing a short story or vignette of max 200 words around the events/instance/quote/image, and then, as a next step, writing a separate, reflective piece about it. The reflective piece can then form a basic scaffold on which other pieces of the empirical material may be attached. This way, the analysis of the empirical material expands in an incremental fashion.

Both sorting and reducing can be done also through visuals. Some people prefer drawing images, pictures, models, charts, diagrams or produce other forms of visualizations to capture patterns or to highlight particularly fascinating pieces of their empirical material. Please note that I’m not here talking about the finished visualizations that you may or may not include in the final version of your thesis to illustrate your text. I am here referring to visuals that you draw as part of your analysis work, just as you write first drafts that do not necessarily follow all the usual conventions of writing, but that fills the function of aiding the process of analysing the empirical material.

### Building the argument

Regardless if you follow the sorting or reducing principle, your analytical work is about building an argument. Most likely, the argument will not be clear to you in the early phases of analysing, it will emerge as you muddle through with the analysis work. When I write “emerge” I don’t mean that it will emerge magically, out of nothing. Unfortunately, this is not the case. It will rather develop in your head, reflected in the writing you do, as you work with sorting and/or reducing the material and relate this to what you have read in previous research.

The argument is constituted by the answer to your research question (the actual “thesis” of your work) and the associated points which support this answer. Regardless if your doctorate work takes place as a question-seeking-an-answer-process, or as an answer-seeking-a-question-process, the argument should build on the empirical material that supports it in the best way possible. This means that for building the argument involves you need to both sort and reduce the empirical material, and it is natural that these three processes, building the argument, sorting and reducing, happens simultaneously in the analytical work.

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Even though the argument is yours, building on your empirical work, you will need to relate the argument to what has been found in previous research, either by contrasting your argument against what has been argued earlier, or by showing how your argument supports this. This is done by explicitly, in writing, discussing what you see in your empirical material and linking this to previous research.

A lot of doctoral candidates find this difficult since they don't feel as if they are an authority in the field that they study. And that may very well be the feeling you have when you are writing your thesis. Here you are, reading all the clever things that others, often senior professors, have written, and even though you have done a study of your own, who are you to say anything about anything? If you think like this, please remember that the senior professors whose work you read and engage with in your thesis have not performed *your* empirical work and that the one and only true expert on that material is you.

Also remember that building an argument takes time. Your text will probably go through a number of iterations before the argument finds its final form. The key here is to not stop writing – other than to take breaks of course; breaks where you think about something different (or not at all) are necessary for your brain to recover, and you may also find inspiration in all sorts of unexpected places.

### On qualitative rigour

As you will notice, it is not possible to display everything from empirical material that supports your argument in the text you write; this will make the text too long and it will become difficult to read and especially if you write a thesis where you present your work as a series of shorter papers or articles. You will need to make choices as to what in your empirical material should be there and what should not. The basic criterion is that you should display whatever empirical material (quote, vignette, illustration, photo etc) that in the most powerful way supports your argument. What material this is, is up to you to decide, but remember that your argument needs to rest on your study as a whole – you cannot choose to ignore data that is counter to what you want to say.

You also need to make sure that you explain to the reader of your work what empirical material you have chosen not to include or exclude and why. Please note that “powerful” here is not the same as “most common” – this type of analysis belongs to quantitative analysis. Instead, “powerful” refers to the feeling you most probably have that a particular empirical extract proves what the data says in a clearer way than other extracts.

You could, however collect other “proofs” of that which you are trying to say in separate tables or figures and insert in the text directly, or put in an attachment (Pratt, 2008). This could be one way of



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showing that the argument you build is strong, not because it is grounded on a large number of empirical illustrations, but because the empirical illustrations all support it.

The question of how rigour is achieved when analysing qualitative empirical material is important – in the same way as it is important when analysing quantitative empirical material. The difference is that the toolbox for quantitative methodology contains specified strategies for how to achieve scientific rigour, whereas the toolbox for qualitative methodology is more diverse and attentive to nuances of different ontological and epistemological views; making it important that the qualitative researcher pay attention to such issues, and finds ways of making sure that her work is performed and presented in a manner that is coherent with the underlying views of the phenomena and knowledge-building. This requires reflection and transparency.

### Final note

When, then, is the work of analysing qualitative material finished? Well, the answer is “never”. Those of us who like doing qualitative work often see this as the beauty of qualitative research: a rich empirical material is always open for new interpretations, depending on the perspective and the questions asked of it. As a doctoral candidate this is of course not an answer you want to get, you want to finish your thesis and get on with your life. In order for this to happen you need to make a decision. Just as you at some point when collecting empirical data felt that you had enough (and by this I don't mean that you had had it with your thesis-work; such feelings will come and go regularly during your thesis work); that continuing the field work would not provide new insights, there will come a point when you experience the same feeling of saturation in your analysis work. This may not come at the desk, several doctoral candidates report that they first feel this when presenting their work at a conference, or when talking to someone else. Suddenly, the argument makes sense, and the questions that people ask can be answered in a satisfactory and convincing manner.

I hope that this chapter has provided you with some inspiration as to how to go about analysing your qualitative material. As for myself I am quite pleased that I now, 13,5 hours after the flight I'm on, have reached my destination, and wish you all the luck which reaching yours. All that remains is for me to summarise the lessons for keeping you doctorate on track.

Lessons for keeping your doctorate on track.

- Write regularly. A good analysis doesn't fall down from the sky like Newton's apple but emerges processually as you reflect upon what's in your empirical material.

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- Organize your empirical material. Transcribe what needs to be transcribed and organize transcripts, photos, documents etc in a way so you know where to find the different parts of your data.
- Reflect. Does your work follow a question-seeking-an-answer-process, or an answer-seeking-a-question-process? Which strategy do you want to start with: sorting, reducing or building an argument?
- Make sure your analysis meets the expectations of scientific rigour.

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