ESSENTIAL GUIDE TO QUALITATIVE METHODS IN ORGANIZATIONAL RESEARCH

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21 Using Templates in the Thematic Analysis of Text

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WHAT IS TEMPLATE ANALYSIS?

Definitional and epistemological issues

The term 'template analysis' does not describe a single, clearly delineated method; it refers rather to a varied but related group of techniques for thematically organizing and analysing textual data. The essence of template analysis is that the researcher produces a list of codes ('template') representing themes identified in their textual data. Some of these will usually be defined a priori, but they will be modified and added to as the researcher reads and interprets the texts. The template is organized in a way which represents the relationships between themes, as defined by the researcher, most commonly involving a hierarchical structure.

As a set of techniques, rather than a distinct methodology, template analysis may be used within a range of epistemological positions. On the one hand, it can be employed in the kind of realist qualitative work which accepts much of the conventional positivistic position of mainstream quantitative social science. That is to say, research which is concerned with 'discovering' underlying causes of human action, and which seeks to achieve researcher objectivity and to demonstrate coding reliability (for example, Miles and Huberman, 1994; Kent, 2000). On the other hand, template analysis can be used within what Madill et al. (2000) call a 'contextual constructivist' position. Here, the researcher assumes that there are always multiple interpretations to be made of any phenomenon, which depend upon the position of the researcher and the context of the research. Concern with coding reliability is therefore irrelevant; instead issues such as the reflexivity of the researcher, the attempt to approach the topic from differing perspectives, and the richness of the description produced, are important requirements. Phenomenological, interactionist and some narrative approaches fall within this category.

Despite the variety of epistemologies which may support the use of a template approach, there are positions for which it is probably not appropriate. For those researchers seeking to combine qualitative and quantitative analyses, template analysis may appear to produce coded segments which could simply be treated as units of analysis for content analysis. This is highly problematic, however, because of the emphasis in template analysis on the flexible and pragmatic use of coding (see below) – the assumption that the frequency of a code in a particular text corresponds to its salience simply cannot be made. Template analysis is also inappropriate for methodologies taking a radical relativist position, such as discourse analysis, for two main reasons. First, discursive approaches require a much more finely grained analysis than it provides. Secondly, the attaching of codes to segments of text would be seen by a discourse analyst as limiting the possibilities for fully exploring the diversities of meaning – and especially the ambiguities – in the way that language is used to construct reality.

Why use template analysis?

Why should anyone about to embark on a qualitative research project choose to use template analysis? In particular, why should they choose it over other approaches which resemble it and for which there exists a more substantial literature, such as grounded theory (for example, Strauss and Corbin, 1990; Carrero et al., 2000) and interpretative phenomenological analysis (IPA: for example, Smith, 1996; Jarman et al., 1997)? In this section I will consider the advantages that template analysis may offer in relation to these two approaches.

Focusing first on grounded theory, for some researchers a preference for template analysis may be based on their philosophical position. While it may be argued that grounded theory is not wedded to one epistemological approach (Charmaz, 1995), it has been developed and utilized largely as a realist methodology. That is to say, its users have mostly claimed to be uncovering the 'real' beliefs, attitudes, values and so on of the participants in their research. Those qualitative researchers taking a contextual constructivist stance that is sceptical of the existence of 'real' internal states to be discovered through empirical research, may therefore feel that template analysis is more conducive to their position.

Template analysis may also be preferred by those who are not inimical to the assumptions of grounded theory, but find it too prescriptive in that it specifies procedures for data gathering and analysis that *must* be followed (Strauss and Corbin, 1990). In contrast, template analysis is, on the whole a more flexible technique with fewer specified procedures, permitting researchers to tailor it to match their own requirements.

When employed within a broadly phenomenological approach, template analysis is in practice very similar to IPA, in terms of the development of conceptual themes and their clustering into broader groupings, and the eventual identification across cases of 'master themes' with their subsidiary 'constituent themes'. The main differences between these approaches are the use of a priori codes in template analysis, and the balance between within and across case analysis. IPA tends to analyse individual cases in greater depth before attempting any integration of a full set of cases. The net effect of these differences is that template analysis is generally somewhat less time-consuming than IPA, and can handle rather larger data sets more comfortably. IPA studies are commonly based on samples of 10 or fewer; template analysis studies usually have rather more participants, 20 to 30 being common. Template analysis works particularly well when the aim is to compare the perspectives of different groups of staff within a specific context.

Defining codes

Put simply, a code is a label attached to a section of text to index it as relating to a theme or issue in the data which the researcher has identified as important to his or her interpretation. To take a hypothetical example, in the transcript of an interview with a work-based counsellor, the researcher might define codes to identify the points in the text where the interviewee mentions particular groups of staff ('senior managers', 'middle managers', 'clerical staff', and so on), or particular categories of presenting problems ('workload problems', 'relationships at work', 'relationships outside work'). Codes such as these are essentially descriptive, requiring little or no analysis by the researcher of what the interviewee means. Many codes will be more interpretative, and therefore harder to define clearly; in our hypothetical example, these might include codes relating to the counsellor's feelings about the mismatch between their own and clients' perceptions of their role.

Hierarchical coding

A key feature of template analysis is the hierarchical organization of codes, with groups of similar codes clustered together to produce more general higher-order codes. Returning to the workplace counselling example, separate codes relating to 'unrealistic client expectations', 'uncertainty about availability of resources' and 'confusion in relationships with outside agencies' might be incorporated into a single higher-order code, 'effects of lack of role clarity'. Hierarchical coding allows the researcher to analyse texts at varying levels of specificity. Broad higher-order codes can give a good overview of the general direction of the interview, while detailed lower-order codes allow for very fine distinctions to be made, both within and between cases. There can be as many levels of coding as the researcher finds useful, but it is worth bearing in mind that too many levels can be counter productive to the goal of attaining clarity in organizing and interpreting the data.

Parallel coding

Template analysis usually permits parallel coding of segments of text, whereby the same segment is classified within two (or more) different codes at the same level. Parallel coding is only likely to be problematic in research which is located strongly towards the positivistic end of the qualitative research spectrum, where researchers may wish to combine template analysis with elements of quantitative content analysis.

The study: managing mental health in primary care

The project I will be describing here examined general practitioners' decisions about the management of patients with mental health problems, with a particular emphasis on their understanding of service delivery and organization. This is an area that has long been recognized as problematic for primary care (for example, Freeling and Tylee, 1992). It was commissioned by the relevant health authority in the hope that it would inform choices about the mental health services purchased on behalf of GPs by the authority. The research was carried out by myself and Julia Maskrey. Two main research questions were posed:

1. What factors do GPs perceive to be influential in their mental health treatment/management decisions?
2. What are GPs' experiences of and attitudes towards mental health service providers?

The study district was largely urban, but with a very mixed population in terms of class and ethnicity. The 13 participating GPs were recruited with the assistance of local GP representatives to include a cross-section of practice areas. Three of the GPs were female and 10 were male. The average age of the GPs was 30 and the average length of time spent in the profession was nine-and-a-half years.

The method chosen for this study was that of focus group interviews. Focus groups are a valuable way of gaining insight into shared understandings and beliefs, while still allowing individual differences of opinion to be voiced. They enable participants to hear the views and experiences of their peers, and cause them to reflect back on their own experiences and thoughts. At the beginning of each focus group, each GP was asked to comment on one of six previously

recorded cases, focusing on any particularly difficult or notable experiences. Discussion of particular cases then led into a wider consideration of issues relating to mental health services. The interviewers used a set of broad topic headings to guide the interviews, but tried as far as possible to allow the participants to lead the discussion. Each of the focus group interviews lasted for approximately one and a half hours, and was tape-recorded for later transcription.

DEVELOPING THE TEMPLATE

In this section I will describe the development of the analytical template, illustrating throughout with examples from the 'Managing mental health' study. It is crucial to recognize that development of the template is not a separate stage from its usage in analysis of texts. A useful contrast can be made with content analysis, where the researcher first constructs a coding scheme, then applies it to the texts to generate quantitative data for statistical analysis. In qualitative template analysis, the initial template is applied in order to analyse the text through the process of coding, but is itself revised in the light of the ongoing analysis.

Creating the initial template

As noted earlier, template analysis normally starts with at least a few pre-defined codes which help guide analysis. The first issue for the researcher is, of course, how extensive the initial template should be. The danger of starting with too many pre-defined codes is that the initial template may blinker analysis, preventing you from considering data which conflict with your assumptions. At the other extreme, starting with too sparse a set of codes can leave you lacking in any clear direction and feeling overwhelmed by the mass of rich, complex data.

Often the best starting point for constructing an initial template is the interview topic guide – the set of question areas, probes and prompts used by the interviewer. The topic guide itself draws on some or all of the following sources, depending on the substantive content and philosophical orientation of a particular study: the academic literature, the researcher's own personal experience, anecdotal and informal evidence, and exploratory research. Main questions from the guide can serve as higher-order codes, with subsidiary questions and probes as potential lower-order codes. This is most effective where the topic guide is fairly substantial and (in qualitative terms) structured, with the interviewer defining in advance most of the topics to be covered. In contrast, some research requires a more minimalistic approach to the construction of the topic guide, allowing most issues to emerge within each individual interview. This was the case in our 'Managing mental health' study; issues for discussion were identified during the first part of each group interview, where GPs described individual cases. We did produce a list of issues to raise ourselves if the participants did not bring them up, and this was added to as the study progressed, but it was not sufficiently detailed to serve as an analytical template in itself.

The approach Julia Maskrey and I used was to develop an initial template by each examining a sub-set of the transcript data (one group interview each), defining codes in the light of the stated aims of the project. We then considered each other's suggestions and agreed a provisional template to use on the full data set. This kind of collaborative strategy is valuable as it forces the researcher to justify the inclusion of each code, and to clearly define how it should be used.

1 CASE BACKGROUND HISTORY
- 1 Illness category
- 2 Treatment history
- 3 Patient's personal history

2 THE CONSULTATION
- 1 Presenting problem
- 2 Treatment/management offered
  - 1 Prescription
  - 2 Advice
  - 3 Referral
- 3 Factors influencing treatment/management
  - 1 Patient/GP interpersonal relationship
  - 2 The GP role
    - 1 GP's own perception of role
    - 2 GP workload/time pressure

3 SERVICE CONTACT
- 1 Service(s) used
  - Practice nurse
  - Psychiatrist
  - Clinical psychologist
  - Community psychiatric nurse
  - Social worker
  - CAST (community assessment team)
  - CRUSE (bereavement counselling)
  - Relate
  - Drug rehabilitation
  - Other voluntary services
- 2 Factors influencing GP use of service
  - Role responsibilities of service
  - Communication difficulties
  - Availability of service
  - Response time of service
  - Personal familiarity with individual service provider
  - GP knowledge about mental health services
  - Flexibility of service
  - Appropriateness of specific intervention(s)

4 POSSIBLE AREAS OF IMPROVEMENT
- 1 Areas identified in course of discussion
- 2 Priorities for investment (responses to specific question)

Figure 21.1 Initial template from the 'managing mental health' study

As can be seen in Figure 21.1, the initial template consists of four highest-order codes, sub-divided into one, two or three levels of lower-order codes. The extent of sub-division broadly reflects depth of analysis, with the second and third highest-order codes ('The Consultation' and 'Service Contact') covering the central issues of the study; patient management decisions in the selected target cases, and GPs' wider experiences of the various mental health services available to their patients. (For the sake of clarity I will henceforth refer to coding levels numerically, with the highest order codes being 'level one' and the lowest 'level four').

The first level-one code is 'Case Background History', which comprises three level-two codes: 'Illness category', 'Treatment history' and 'Patient's personal history'. It would have been entirely possible to further sub-divide these codes. However, as these biographical issues were tangential to the main research questions of the study, and as time and resources were tight, no further levels were defined.

The second level-one code ('the Consultation') relates to accounts of specific consultations with patients. Level-two codes index references to the particular problem the patient presented with on the occasion in question, the treatment or management offered, and factors influencing its choice. This area is of direct relevance to the study's aims, and therefore required a more finely-grained analysis than the first level-one code, hence the inclusion of four levels of coding on the initial template.

'Service Contact' is the third level-one code, and also encompasses key issues for the study. It is used to index accounts of mental health services used by the GPs in the study, mentioned either in the course of describing specific cases, or in the more general discussion of issues arising. The first level-two code here is purely descriptive, identifying sections of transcripts where references to services are made. Ten level-three codes specify particular services, or types of service used by the GPs. The second level-two code relates to factors influencing when and how they choose to utilize specific services.

Finally, 'Possible areas of improvement' is the fourth level-one code. While this was an important issue, it was secondary to the main aims of the study. Therefore, on the initial template the code was sub-divided only as far as two second-order codes, the first identifying areas for improvement emerging in the course of the focus group discussions, the second covering comments specifically about how GPs would prioritize future investment in mental health services.

Revising the template

Once an initial template is constructed, the researcher must work systematically through the full set of transcripts, identifying sections of text which are relevant to the project's aims, and marking them with one or more appropriate code(s) from the initial template. In the course of this, inadequacies in the initial template will be revealed, requiring changes of various kinds. It is through these that the template develops to its final form. Below I describe five main types of modification likely to be made whilst revising an initial template, illustrating with examples from our study:

INSERTION

Where the researcher identifies an issue in the text of relevance to the research question, but not covered by an existing code, it is necessary to add a new code. Arguably the most significant

insertion in this analysis was the definition of 'Inter-agency issues' as a level-one code, embracing a set of lower level codes which were either new themselves or had initially appeared elsewhere in the template. This was in recognition of our increasing awareness over the course of the analysis that inter-agency issues were a key theme in much of the GPs' discussion:

> Sometimes, when there's a large team and you contact a central point [pause] the case is allocated, you tend to lose a bit of control and you're speaking to someone who's nameless.

DELETION

An initially defined code may be deleted at the end of the process of template construction simply because the researcher has found no need to use it. Alternately, a code which had seemed to represent a distinct theme may be found to substantially overlap with other codes (perhaps as a result of re-definitions) and again will be deleted.

On our initial template, under the level-one code 'Possible areas of improvement' we distinguished between suggestions arising in the course of discussion, unprompted by us as interviewers, and suggestions made in response to a direct question about participants' priorities for additional investment. On reflection we decided that there was so much overlap in the kinds of comments arising in these two contexts that it did not make sense to keep these as separate level-two codes. We therefore deleted both and replaced them with two new codes, identifying whether the suggestions were related to particular services or general improvements (such as 'better communication').

CHANGING SCOPE

Where the researcher finds that a code is either too narrowly defined or too broadly defined to be useful, the code will need to be re-defined at a lower or higher level.

We used this kind of modification extensively in developing our template. 'GP Role' was initially a level-three code, defined narrowly as one of the factors influencing treatment/management decisions in specific consultations. It very soon became apparent that this was an issue of much wider relevance to the study, and we consequently revised the template to include it as a level-one code:

> I think you've also got to bear in mind that people have got an individual responsibility, so, my feeling would be that patients have an individual responsibility for themselves, and they can't just bring all their woes and off-load them on their GP and expect them to give them answers.

At the same time, we decided to use 'the Consultation' code simply to index descriptive details about patients discussed by participants, and therefore reduced it in scope to a level two code, under 'Case background details'.

CHANGING HIGHER-ORDER CLASSIFICATION

The researcher may decide that a code initially classified as a sub-category of one higher-order code would fit better as a sub-category of a different higher-order code.

We used this modification in several places in our study's template, often in conjunction with other types of modification. For example, we initially included 'Communication difficulties with specialists' as a third level code, under 'Factors influencing service use'. We

subsequently decided that it would be clearer if this second-level code was removed, and all the individual factors which had comprised it (including 'Communication . . .') were placed as third-level codes under each of the individual services identified. Later in the analysis, the higher-order classification of 'Communication . . .' was then changed again, as a second-level code under the newly-defined level-one code; 'Inter-agency issues'. It was also redefined as referring to all kinds of communication issues, and not just 'difficulties':

> What was good about the clinical psychologist is that you could grab her and say 'I've got this lady, or gentleman, this situation, which direction do you think I should be going and is it worthwhile you seeing them?' So you could actually relate an actual scenario, and that was very useful.

Thus the process of finding a suitable location in the template for this code involved all four of the types of modification I have identified; the *deletion* of 'Factors influencing service use', two *changes to higher-order classification*, the *insertion* of 'Inter-agency issues' and a *change in scope* from third to second level.

The 'final' template

One of the most difficult decisions to make when constructing an analytical template is where to stop the process of development. It is possible to go on modifying and refining definitions of codes almost ad infinitum, but research projects inevitably face external constraints which mean that you do not have unlimited time to produce an 'ideal' template. The decision about when a template is 'good enough' is always going to be unique to a particular project and a particular researcher. However, no template can be considered 'final' if there remain any sections of text which are clearly relevant to the research question, but remain uncoded. Also, as a rough rule of thumb, it is most unlikely that a template could be considered final if all the data have not been read through – and the coding scrutinized – at least twice.

Commonly most or all of the texts will have been read through at least three or four times before you begin to feel comfortable with the template. It is generally easier to make a confident judgement that the point has been reached to stop the development of the template where two or more researchers are collaborating on the analysis. A solo researcher might use one or more outside experts to help determine whether the template is sufficiently clear and comprehensive to call a halt to modifications.

Figure 21.2 shows the 'final' template from the 'Managing mental health' study.

Using software in template analysis

Recent years have seen major developments in qualitative research software, both in terms of the range of products available and their power and utility. Amongst the best known are NUD*IST and NVivo, both produced by QSR, and Atlas TI. Although the facilities offered by such programs vary, they generally enable the researcher to index segments of text to particular themes, to link research notes to coding, and to carry out complex search and retrieve operations. NVivo also has powerful tools to aid the researcher in examining possible relationships amongst themes (see Gibbs, 2002, for a detailed account of the use of NVivo). It is, of course, true that software can only aid in organizing and examining the data, and cannot by itself make any kind of judgement; however, computerization enables the researcher

1 CASE BACKGROUND HISTORY
- 1 The consultation
  - 1 Presenting problem
  - 2 Treatment/management decision
    - 1 Prescription
    - 2 Advice
    - 3 Referral
- 2 Management/treatment history
- 3 Patient's personal history

2 GP ROLE AND RELATIONSHIP ISSUES
- 1 GP Role
  - 1 GP perceptions of role
    - 1 Changing role
    - 2 Inappropriate aspects of role
  - 2 GP workload
    - 1 'Shifting' patients to other agencies
    - 2 Reduction in amount of advice provided for patients
  - 3 GP lack of mental health training
- 2 GP/patient interaction
  - 1 Quality of GP/patient relationship
  - 2 GP perceptions of patient
    - 1 Need to 'protect' other services
    - 2 Somatisation
    - 3 Ethnicity
- 3 Patient's co-operation/compliance
- 4 Stigma of mental illness

3 INTER-AGENCY ISSUES
- 1 Inter-agency communication
  - 1 Between GPs and other agencies
    - 1 Psychiatry
    - 2 Clinical psychology
    - 3 Community mental health team
    - 4 Practice-based counsellors
    - 5 Alternative therapists
    - 6 Voluntary agencies
    - 7 Other agencies in general
  - 2 Amongst other agencies
    - 1 Psychiatry
    - 2 Clinical psychology
    - 3 Community mental health team
    - 4 Practice-based counsellors
    - 5 Alternative therapists
    - 6 Voluntary agencies

Figure 21.2 Final template from the 'managing mental health' study

    - 7 Other agencies in general
  - 2 GP's personal familiarity with other agencies
  - 3 GP's knowledge/understanding of other agencies
    - 1 Effects of changes in mental health services
    - 2 Formal information provided for GPs

4 SPECIFIC SERVICES
- 1 Psychiatry
- 2 Clinical psychology
  - 1 Rapid access
  - 2 Other
- 3 Community Mental Health Team
  - 1 CAST
  - 2 Community psychiatric nurses
  - 3 Social workers6
  - 4 Team as a whole
- 4 Practice-based counsellors
- 5 Alternative therapists
- 6 Drug and alcohol services
- 7 Voluntary agencies
  - 1 CRUSE
  - 2 Relate
  - 3 Drug rehabilitation
  - 4 MIND
  - 5 Others
- 8 Child services
  - 1 Psychiatry
  - 2 Psychology
  - 3 Others

- 1 Degree of use
- 2 Specific skills
- 3 Availability
  - 1 Via cross-referral
  - 2 Waiting times
- 4 Flexibility of service
- 5 Effectiveness of interventions

Patient attitudes to service
- 7 Comparisons between services
- 8 Role responsibilities
- 9 Appropriateness for particular problems
  - 1 Is appropriate
  - 2 Is inappropriate

5 POSSIBLE AREAS FOR IMPROVEMENT
- 1 Specific services
  - Clinical psychology
  - Community mental health team
  - Practice-based counselling
  - Substance abuse services
  - Child services
  - Adult psychiatry
  - Forensic psychology
- 2 General areas for improvement
  - 1 Communication
  - 2 Definition of roles
    - 1 GPs'
    - 2 Others'
- 3 Reduced frequency of organizational change

Figure 21.2 *cont.*

to work efficiently with complex coding schemes and large amounts of text, facilitating depth and sophistication of analysis. The time needed to prepare data and to learn to use packages effectively may deter some researchers, but the recent improvements in both software and instructional materials more than compensate for this in all but the smallest of projects. The central role of the template structure in template analysis makes it an approach which is particularly well-suited to computer-assisted analysis.

INTERPRETING AND PRESENTING TEMPLATE ANALYSIS

Interpretation

It is sometimes assumed that developing a template and using it to code a set of transcripts (or other textual data) constitutes the process of analysis *in toto*. All that is left is to report which codes occurred where in which transcripts. Such an approach leads to a very flat, descriptive account of the data, providing little more depth than would be gained from quantitative content analysis, but without the rigorously consistent definition of units of analysis required to properly carry out that method. The template and the coding derived from it are only means to the end of interpreting the texts, helping the researcher to produce an account which does as much justice as possible to the richness of the data within the constraints of a formal report, paper, or dissertation.

It would be inappropriate to set out any general rules for how a researcher should go about the task of interpreting coded data; a strategy must be developed which fits the aims and content of a particular study. I will offer some guidelines and examples which may serve as a useful starting point, but urge readers not to view these as the only permissible strategies.

LISTING CODES

I usually find it useful at an early stage to compile a list of all codes occurring in each transcript, with some indication of frequency. Most qualitative analysis software packages enable you to do this very simply. If coding is entirely by hand, it is important that codes are marked very clearly in margins, ideally with some colour-coding, to make it possible to list codes quickly and accurately. The distribution of codes within and across transcripts can help to draw attention to aspects of the data which warrant further examination. For example, if a theme occurs prominently in all but one of a set of interview transcripts, it may be revealing to look closely at the one exception and attempt to explain why the code was absent.

A word of warning about the counting of codes is required. While patterns in the distribution of codes within and across cases may suggest areas for closer examination, the frequency of codes per se can never tell us anything meaningful about textual data.

SELECTIVITY

Perhaps the opposite danger to that of drifting into a quasi-quantitative approach through counting codes is that of unselectivity, where the researcher attempts to examine and interpret every code to an equal degree of depth. Novice researchers fall into the trap of unselectivity for the best of reasons, heeding exhortations to keep an open mind and not allow the analysis to be limited by their own prior assumptions. This is valuable advice, but it has to be followed realistically, which means that you must seek to identify those themes which are of most central relevance to the task of building an understanding of the phenomena under investigation.

OPENNESS

The need to be selective in analysing and interpreting data must be balanced against the need to retain openness towards it. You must not be so strongly guided by the initial research questions that you disregard all themes which are not obviously of direct relevance. Themes which are judged to be of marginal relevance can play a useful role in adding to the background detail of the study, without requiring lengthy explication. More problematic are those themes that are clearly of great importance to participants, but that seem to lie well outside the scope of the study, and perhaps were even deliberately excluded from it. In such cases, you must carefully consider whether investigation of the 'excluded' theme casts any significant light on the interpretation of central themes in the study. If it does, then it should be included in the analysis.

RELATIONSHIPS BETWEEN THEMES: BEYOND THE LINEAR TEMPLATE

The standard template depicts the relationship between themes as a linear one; each code is listed in turn with its subsidiary codes next to it, down to as many levels of hierarchy as are identified. This simple structure has advantages in terms of clarity – an important point when it comes to presenting findings, as I discuss below. However, it may not reflect the kinds of relationships a researcher may want to depict in his or her analysis. Even in the example I have used here, the final template shows some deviation from a purely linear structure, with the group of fourth-level codes under 'Specific services' shown as applying to all other codes in this section of the template. Similarly, in a study of experiences of diabetic renal disease, my co-authors and I identified two 'integrative themes' which we felt permeated all the other themes coded on the template (King et al., 2002). Crabtree and Miller (1999) recommend the use of maps, matrices and other diagrams to explore and display template analysis findings. The researcher should feel free to use these kinds of strategies in building their interpretations, and not feel that analysis has to stop at the point where a full linear template is produced.

Presentation

The final task facing you is to present an account of your interpretation of the data, often in the limited space of a few thousand words in a report or academic paper. I firmly believe that writing-up should not be seen as a separate stage from analysis and interpretation, but rather as a continuation of it. Through summarizing detailed notes about themes, selecting illustrative quotes, and producing a coherent 'story' of the findings, the researcher continues to build his or her understanding of the phenomena the research project has investigated.

As with other stages of template analysis, it is impossible to define one single correct or ideal way to present findings. The researcher needs to consider the nature of the data, the type of document to be produced (including its word length) and, critically, the intended readership. All the same, it is possible to identify three common approaches to presentation; any one of which might prove useful, at least as a starting point.

(i) *A set of individual case-studies, followed by a discussion of differences and similarities between cases.* This gives the reader a good grasp of the perspectives of individual participants, and can help to ensure that the discussion of themes does not become too abstracted from their accounts of their experience. However, where there are a relatively large number of participants, this format can be confusing for the reader, and it does rely on there being sufficient space to provide an adequate description of each case.

(ii) *An account structured around the main themes identified, drawing illustrative examples from each transcript (or other text) as required.* This tends to be the approach which most readily produces a clear and succinct thematic discussion. The danger is of drifting towards generalizations, and losing sight of the individual experiences from which the themes are drawn.

(iii) *A thematic presentation of the findings, using a different individual case-study to illustrate each of the main themes.* This can be a useful synthesis of approaches (i) and (ii) above; the key problem is how to select the cases in a way which fairly represents the themes in the data as a whole.

Whatever approach is taken, the use of direct quotes from the participants is essential. These should normally include both short quotes to aid the understanding of specific points of interpretation – such as clarifying the way in which two themes differ – and a smaller number of more extensive passages of quotation, giving participants a flavour of the original texts.

ADVANTAGES AND DISADVANTAGES OF THE TECHNIQUE

Throughout this chapter I have alluded to a variety of advantages and disadvantages of using template analysis; I will draw them together here to present what I hope is a balanced summary. The greatest advantage of template analysis resides in the fact that it is a highly flexible approach that can be modified for the needs of any study in a particular area. It does not come with a heavy baggage of prescriptions and procedures, and as such is especially welcome to those who want to take a phenomenological and experiential approach to organizational research. At the same time, the principles behind the technique are easily grasped by those relatively unfamiliar with qualitative methods – in part because of the similarities to content analysis – and as such it can be a valuable introduction to the whole field. Template analysis works very well in studies which seek to examine the perspectives of different groups within an organizational context – for example, different professions working in a collaborative setting, or different grades of staff affected by a particular organizational change. Finally, the discipline of producing the template forces the researcher to take a well-structured approach to handling the data, which can be a great help in producing a clear, organized, final account of a study.

Regarding disadvantages, the lack of a substantial literature on this kind of technique, compared to that on grounded theory or discourse analysis, can leave the lone novice researcher feeling very unsure of the analytic decisions he or she has to make. This can result in templates that are too simple to allow any depth of interpretation, or (more often) too complex to be manageable. It can also result in the dangers of over-descriptiveness and of 'losing' individual participants' voices in the analysis of aggregated themes, which I discussed above. Networking with experienced researchers and with fellow novices is highly recommended to tackle such difficulties. The Internet is an increasingly useful tool for this, as there are several discussion lists devoted to issues around qualitative research.

CONCLUDING COMMENTS

A fundamental tension in template analysis (indeed in most qualitative research) is between the need to be open to the data and the need to impose some shape and structure on the analytical process. Too much openness and the product is likely to be chaotic and incoherent; too much structure can leave the researcher with all the drawbacks of quantitative research but none of its advantages. I have tried to offer guidance as to how the reader may cope successfully with this tension throughout this chapter. If anything, I have tended to veer towards an over-structured rather than under-structured approach, because in my experience newcomers to this type of research more often suffer from too much openness than too little. You must remember that there are no absolute rules here; in the end you must define an approach to analysis that suits your own research topic and the epistemological position you wish to take.

FURTHER READING

There is a large volume of literature which discusses thematic analysis in general, much of which can usefully inform the use of template analysis (for example, Flick, 2002; Silverman, 1999). Relatively little, however, deals specifically with the template approach. One exception is Crabtree and Miller's (1999) chapter, 'Using codes and code manuals: a template organizing style of interpretation'. Note that they include matrix analysis approaches within their remit, which are dealt with in Chapter 22 of the present volume (Nadin and Casell). The paper by King et al. (2002), although in a health rather than organizational psychology area, may be a useful example of applying the template approach in a phenomenologically oriented study. Finally, readers may find my website on template analysis a helpful resource: http://www.hud.ac.uk/hhs/research/template_analysis/

REFERENCES

Carrero, V., Peiró, J.M. and Salanova, M. (2000) 'Studying radical organizational innovation through grounded theory', *European Journal of Work and Organizational Psychology*, 9 (4): 489–514.

Charmaz, K. (1995) 'Grounded theory' in J.A.Smith, R.Harré and L. Van Langenhove (eds), *Rethinking Methods in Psychology*, , London: Sage.

Crabtree, B.F. and Miller, W.L. (1999) 'Using codes and code manuals: a template organizing style of interpretation', in B.F. Crabtree and W.L. Miller (eds), *Doing Qualitative Research*, second edition, Newbury Park, CA: Sage.

Flick, U. (2002) *An Introduction to Qualitative Research*, second edition, London: Sage.

Freeling, P. and Tylee, A. (1992) 'Depression in general practice', in E.S. Paykel (ed.), *Handbook of Affective Disorders*, second edition, Edinburgh: Churchill Livingstone.

Gibbs, G. (2002) *Qualitative Data Analysis: Explorations with NVivo*, Buckingham: Open University Press.

Jarman, M., Smith, J.A. and Walsh, S. (1997) 'The psychological battle for control: a qualitative study of healthcare professionals' understandings of the treatment of anorexia nervosa', *Journal of Community and Applied Social Psychology*, 7: 137–152.

Kent, G. (2000) 'Understanding the experiences of people with disfigurements: an integration of four models of social and psychological functioning', *Psychology, Health and Medicine*, 5 (2): 117–29.

King, N., Carroll, C., Newton, P. and Dornan, T. (2002) '"You can't cure it so you have to endure it": the experience of adaptation to diabetic renal disease', *Qualitative Health Research*, 12 (3): 329–46.
Madill, A., Jordan, A. and Shirley, C. (2000) 'Objectivity and reliability in qualitative analysis: realist, contextualist and radical constructionist epistemologies', *British Journal of Psychology*, 91: 1–20.
Miles, M.B. and Huberman, A.M. (1994) *Qualitative Data Analysis: An Expanded Sourcebook*, Beverly Hills, CA: Sage.
Silverman, D. (1999) *Doing Qualitative Research*, London: Sage.
Smith, J.A. (1996) 'Beyond the divide between cognition and discourse: using interpretative phenomenological analysis in health psychology', *Psychology and Health*, 11: 261–71.
Strauss, A. and Corbin, J. (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, Newbury Park: Sage.

22 Using Data Matrices

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Data matrices are a way of displaying qualitative data in a format where they are readily accessible for the process of interpretation. Although the main purpose of matrices is as a way of presenting various types of data, they can also be used as part of the qualitative data analysis process. Matrices derive from the work of Miles and Huberman and their uses are outlined in detail in *Qualitative Data Analysis: An Expanded Sourcebook* (1994). In this chapter we will firstly describe what a matrix is and then outline some of the ways in which matrices can be used. We will then provide a case example from the first author's own research and conclude by evaluating some of the advantages and disadvantages of using matrices for analysing qualitative data.

WHAT IS A MATRIX?

'A matrix is essentially the "crossing" of two lists, set up as rows and columns' (1994: 3). It typically takes the form of a table, although it may also take the form of 'networks' – a series of nodes with links between them. Each row and column is labelled, with rows usually representing the unit of analysis – be it by site, if a between site analysis or comparison is being conducted, or by different individuals from the same site for a within site analysis. The columns typically represent concepts, issues or characteristics pertinent to the research questions. It is important to stress that deciding what the columns and rows represent is an integral part of data analysis and interpretation, informed by the research questions and what is important and what is not in relation to those questions. Another factor determining what the columns and rows represent is the function or purpose of the matrix which can range from providing a general description to providing an in-depth comparative analysis.

The actual information contained in the matrix can take a variety of different forms (for example, blocks of text, quotes, ratings symbolic figures and so on), though when using interview transcripts the use of direct quotations where possible is recommended. Again, selecting what goes into each 'box' is a decision grounded in an in-depth analysis of the data. As such, matrix construction is itself the result of an in-depth analytical process from which further analysis and interpretations can be made.

HOW CAN MATRICES BE USED?

Miles and Huberman (1994) distinguish between matrices which are *descriptive* and those which are *explanatory*. Descriptive matrices aim to make complex data more understandable by reducing it to its component parts. In doing so these can supply the basic material for