Progressive Focusing and Trustworthiness in Qualitative Research: The Enabling Role of Computer-Assisted Qualitative Data Analysis Software (CAQDAS)

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Abstract and Key Results

- The business and management community increasingly recognises that qualitative research is a 'messy', non-linear and often unpredictable undertaking. Yet, a considerable proportion of the qualitative research published in top journals is still presented as the result of a linear, predictable research process, thus wrongly suggesting deductive reasoning.
- In this paper, we focus on a particular type of 'messiness' where during fieldwork, the research context is revealed to be more complex than anticipated, forcing the researcher to gradually refine/shift their focus to reflect 'what really matters'. We adopt Stake's notion of *progressive focusing* for this gradual approach.
- Progressive focusing is well-suited to qualitative research in international business requiring complex iteration between theory and data, and the truthful yet coherent presentation of the research process. We propose that this dual challenge of complexity and trustworthiness may be addressed by using computer-assisted qualitative data analysis software (CAQDAS).
- We present conceptual considerations and guidelines and offer a view on a 'messy', non-linear doctoral research project conducted using a progressive focusing approach, to demonstrate how CAQDAS can help to develop and re-negotiate insights from theory and interview data, as well as enhance trustworthiness, transparency and publication potential.

Key Words

Qualitative research, trustworthiness, progressive focusing, CAQDAS, nonlinearity, emic and etic perspectives

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Introduction

Qualitative research in business and management has been steadily gaining ground in recent years. In the field of International Business (IB), leading journals such as Journal of International Business Studies (JIBS) and Management International Review (MIR) have recently hosted special issues on qualitative methods in IB. In some journals, such as International Business Review (IBR) and Journal of World Business (JWB), we witness a more pluralistic methodological approach and qualitative studies are appearing more frequently. Whilst significant advances have been made with regards to the acceptance of 'messy' research (Gummesson 2005; Orton 1997; Parkhe 1993), and an increasing number of qualitative papers published in top journals acknowledge their 'messy' and nonlinear research process (e.g. Denis, Lamothe and Langley 2001; McInerney 2008), many depictions of the qualitative research process in these top journals still remain somewhat sanitised, often describing the research process as linear, predictable and deliberate at each stage. As a recent meta-analysis by Welch et al (2010, p.12) shows, most of the inductive (theory-building) case studies published in Journal of International Business (JIBS), Academy of Management Journal (AMJ) and Journal of Management Studies (JMS) between 1999-2008 were still written up deductively. Even as influential experts on qualitative research methods such as Yin are updating their texts in ways that emphasise the iterative nature of qualitative research (see Yin 2009), in many top IB journals there remains a lingering focus on linearity and predictability as judgment criteria, driven by pressures to demonstrate rigour and systematism, principles derived from the long-established quantitative research tradition. Whilst we acknowledge the importance of rigour and systematism *per se*, and pay considerable attention to them in this paper, we argue that rigour should not mean presenting qualitative research as a deductive process. Our central argument is that trying to achieve greater legitimacy by presenting qualitative data in a quintessentially quantitative manner obscures the key strengths of qualitative research: flexibility and the emergence of unexpected findings, and may create *'the worst of all worlds'* (Pratt 2009, p.858).

It is important to define what we mean by 'qualitative research' in this paper. In line with the dominant view in the IB and management literature (Cassell and Symon 1994; Denzin and Lincoln 1994; Gephart 2004; Marschan-Piekkari and Welch 2004; Miles and Huberman 1994), we conceive of qualitative research as a set of interpretive activities that

seek to understand the situated *meaning* behind actions and behaviours, and rely heavily on the researcher as a *unique interpreter* of the data. As such, we view qualitative research as distinct from specific sub-types of text-based research such as content analysis[1].

In this paper, we acknowledge the ongoing progress in recognising the fluid and emergent nature of much qualitative research in the IB field (McGaughey 2007; Piekkari and Welch 2006; Welch et al. 2010), but also note that the level of acceptance falls short of other fields such as educational research or social anthropology (see e.g. Denzin and Lincoln 2005; Lincoln and Guba 1984; Mellor 2001; Stake 2010). We acknowledge traditional conventions in the IB field but call for the more widespread recognition of the nonlinearity that is typical of real-world qualitative research. In particular, we consider the merits of formally adopting a 'progressive focusing' approach, which entails a systematic narrowing and refinement of the research focus *during* fieldwork in order to accommodate highly unique and specific issues (emic) of socio-cultural behaviour (Parlett and Hamilton 1972; Stake 2010), and examine the role of computer-assisted qualitative data analysis software in enabling this approach, as well as in enhancing its trustworthiness.

A word of caution is needed here. At the same time as endorsing progressive focusing, we believe that acknowledging the 'messy' (Parkhe 1993) nature of real-world qualitative research should not equate to an 'anything goes' attitude. Rather, we argue that instead of trying to constrain or conceal the fluid and often serendipitous nature of their work, qualitative researchers would do well to turn to computer-assisted qualitative data analysis software (CAQDAS) in order to manage and document the research process more effectively. We use the term CAQDAS to refer to any software that is specifically designed to analyse qualitative text, ranging from statistical content analysis tools (e.g. CATPAC, PROTAN, WordStat) to interpretive software (e.g. Atlas.ti, Ethnograph, NVivo, Qualrus). At the same time, we also recognise and encourage the use of bibliographic software designed for citation management (e.g. EndNote, ProCite, RefWorks). However, given our focus on the iteration

1 Although content analysis has been used as a label for a variety of methods and analytical techniques, we regard it as occupying a very specific theoretical space within the more general domain of qualitative research. We view content analysis as 'a class of methods at the intersection of the qualitative and quantitative traditions' (based on Iacobucci and Churchill 2010; Sinkovics, Penz and Ghauri 2008), which places much emphasis on inter-rater reliability (Duriau, Reger and Pfarrer 2007, p.5) or the idea that 'different people should code the same text in the same way' (Neuendorf 2002; Strijbos et al. 2006; see also Welch et al. 2010). In contrast, the type of qualitative research that we focus on in this paper is more generalised. More specifically, our concept of progressive focusing is perhaps closest to the domain of qualitative research that Welch et al (Weber 1990, p.12) term 'interpretive sensemaking'. Nonetheless, parts of our discussion may be useful for researchers using other types of qualitative research such as content analysis and grounded theory, or mixed-methods research.

between theory and data and the limited space in this paper, we specifically concentrate on the uses of interpretive software, and in particular, NVivo.

CAQDAS is by no means a 'golden bullet' that helps to document rigour or takes over the analytical process. Indeed, if deployed in an unsophisticated and technocratic way, there is a danger of fragmentation and over-simplification of qualitative research (Bryman and Bell 2003; Jack and Westwood 2006) that harms the 'story' rather than making the reader believe in it (Golden-Biddle and Locke 2007). However, through the presentation of a specific empirical example from a qualitative research project, we demonstrate how using CAQDAS carefully for the various tasks contained within a research project can enhance systematisation, trustworthiness, reflexivity and operational effectiveness in qualitative research (Sinkovics, Penz and Ghauri 2008), without jeopardising the analytical and interpretive process carried out by the researcher. We also note the particular benefits of CAQDAS for cross-cultural or multilingual research and for working in research teams. Finally, we offer guidelines on how CAQDAS can facilitate robust theory development through the ongoing renegotiation and updating of theoretical concepts and a constant comparison of theoretical building blocks and empirical evidence (Van de Ven 2007), as well as the truthful and coherent representation of complex and iterative research processes.

The paper is organised in the following way: In the conceptual background we first discuss what we see as the traditional style of conducting and reporting qualitative work (deductive/linear progress in qualitative research). We then outline how this linear progress perspective is increasingly challenged in qualitative work that is of international nature, moving away from linearity towards a non-linear, dynamic perspective. We highlight the benefits of a progressive focusing approach in qualitative research and subsequently, we explain how – in our view – CAQDAS can help to facilitate this flexible approach whilst at the same time making the process itself more comprehensible and trustworthy. The ensuing section introduces a qualitative doctoral research project, based on a comprehensive case study and exemplifies the conceptual considerations presented previously. We then conclude this paper by summarising and suggesting avenues for facilitating the theory-data interaction using CAQDAS.

Conceptual background

Qualitative research as a linear, deductive ideal in the business and management literature

During its long history of application in the social sciences, qualitative research has come to be understood and portrayed as the polar opposite of quantitative research – arguably, to its detriment. Much has been written about the so-called 'paradigm wars' of the 1980s (Bazeley 2009; Bergman 2011; Bryman 2006; Denzin 2008; Hammersley 2008; Kuhn 1996; Morgan 2007), which saw qualitative and quantitative researchers engaged in heated debate about the alleged superiority of one approach over the other. Much of the debate centred on the two different epistemologies of objectivism (positivism) and subjectivism (interpretivism/constructivism), each of which came to be associated with a specific type of method. As Haase (2010, p.87) notes, "The assignment of quantitative methods to what is called positivism and of qualitative methods to anti-positivism...reflects practices and convictions within scientific communities."

It is these practices and conventions that have perpetuated a legacy of methodological rigidity in various branches of the social sciences, even though scholars have increasingly argued that research epistemology does not necessarily determine a specific set of methods to be used (Bergman 2011; Haase 2010; Hammersley 2008; Morgan 2007). As Bergman (2011, p.100) notes, "particular readings of methods frameworks are often governed and censured by gatekeepers and stakeholders". In the business and management literature, objectivism has had a long hold on the accepted standards of 'good research', which has significantly affected qualitative research. As Dubois and Gadde (2002, p.555) note, "Most textbooks on research methodology…tend to describe case studies as a linear process", cementing the view that 'good' qualitative research needs to adhere to the same standards as quantitative research. As a result, much of the published qualitative work in the field is presented as linear or deductive (Golden-Biddle and Locke 2007; Orton 1997; Weick 1989), using rhetorical tactics to make qualitative research "more palatable to non-qualitative reviewers" (Pratt 2009, p.857).

Arguably, the 'paradigm wars' have now largely subsided and specific research methods have become uncoupled from philosophical positions (Bryman 2006; Haase 2010). Nonetheless, the mainstream methodology literature on research design and process in business and management research has been slow to catch up. Many of the most popular textbooks advocate a linear six-stage approach (Ghauri and Grønhaug 2010; Iacobucci and

Churchill 2010; Lee 1999; Yin 2003). The six stages in this stages model (see Figure 1) are generally suggested to follow a linear progression. Stage 1, "getting started" refers to the initial preparations for empirical research, such as generating a topic and conducting a literature review. Stage 2 includes the task of developing the underlying research questions and the research design that is deemed most appropriate for investigating these questions. Stage 3 entails choosing a sample and a context (which, in qualitative research, generally means purposive sampling, defined by Teddlie and Yu (2007) as "selecting units (e.g., individuals, groups of individuals, institutions) based on specific purposes associated with answering a research study's questions"). Stage 4 is the crucial stage of collecting empirical data and preparing it for further analysis through digitisation and transcription. Preliminary analysis often takes place during this stage. Stage 5 consists of focused, formal analysis of the empirical data and embedding it in the existing theoretical/conceptual background. Finally, Stage 6 involves a discussion of the findings of the research – including the researcher's interpretations – and articulating the contribution of the research to the wider academic field.

Insert Figure 1 about here

Traditionally, and following accepted quantitative research conventions in the business and management literature, the six stages were viewed as following on from one another in an orderly fashion, although the length of each stage could vary considerably. Many qualitative researchers encountered this model early on in their careers, either explicitly in widely used textbooks (e.g. Ghauri and Grønhaug 2010; Iacobucci and Churchill 2010; Yin 2003) or implicitly in discussions with advisors and peers. In addition, in our experience, many new researchers are strongly motivated by the need for certainty and orderly progression of research tasks, given the cognitive, temporal and resource limitations they encounter. As a result, the linear model is commonly absorbed as 'the right way to do research' in the business management field and often results in expectations of an ideal, orderly research process with relatively seamless transitions between its stages.

Nonetheless, it is widely – if only tacitly – acknowledged amongst qualitative researchers that the *actual* course of real-life research seldom runs so smoothly: it is influenced by accidents, serendipity and on-the-spot decisions (Van Maanen 1998), with fieldwork data that often builds up progressively. Whilst this has been explicitly

acknowledged by a number of scholars (e.g. Gummesson 2005; McGaughey 2007; Orton 1997; Stake 1995), the business and management research community as a whole still appears to be strongly influenced by expectations to present academic work as the product of a predictable, orderly and entirely deliberate process, based on *credibility, dependability, transferability and confirmability* (Sinkovics, Penz and Ghauri 2008)[2]. Many researchers, especially those new to academia, feel pressure to obscure the actual manner in which they chose their focal cases, collected their data, interpreted it or arrived at their findings – in some cases, going as far as not reporting the number of people they interviewed, or disguising the source of their data (see e.g. Sutton 1997). For many qualitative researchers, there still remains a (real or imagined) stigma attached to the concept of non-linear, fluid research which evolves through the constant re-evaluation and re-negotiation of its boundaries, its key contributions and its place in the wider literature.

Amplification of the challenges to the linear progress model in international research

We argue that this traditional, linear model of conducting and reporting qualitative research is even further challenged in the arena of international business. In particular, difficulties with the model described above are amplified by the *emic-etic tension* in dealing with the international aspect of research.

With the increasing interconnectedness of business landscapes (Dicken 2007), qualitative researchers transcend political or cultural boundaries and thus have to make philosophical decisions about the comparative nature of their investigations. Whilst this theoretical trajectory may be equally valuable in any type of qualitative research, the tension is even bigger regarding international or more specifically cross-cultural research traditions and the fundamental understanding of how to address comparative issues. Berry (1989) points out that some scholars propose to work intensively within a single cultural context in order to discover and comprehend indigenous phenomena, whilst others advocate research across cultures that produces results that are valid throughout these contexts. This substantive split in research orientations, which is often seen as dichotomous and contrasting views, is referred to

[2] Sinkovics et al. (2008) point out that reliability and validity have a somewhat uncertain place in the repertoire of a qualitative methodologist (Armstrong et al. 1997), as these dimensions are grounded on a different paradigmatic view and therefore not directly applicable to qualitative research. This is why alternative terms and ways of assessing qualitative research have been proposed, such as credibility, transferability, dependability and confirmability (Denzin and Lincoln 1994; Guba and Lincoln 1989; Kirk and Miller 1986; LeCompte and Goetz 1982).

as an "emic" versus an "etic" approach (Headland, Pike and Harris 1990). The emic-etic discussion originates from anthropology and linguistics (Headland, Pike and Harris 1990; Pike 1966) and shows broad parallels with subjectivist-objectivist perspectives. After entering the cross-cultural psychology field (Berry 1969; Whiting 1954), it slowly cross-pollinated into the international business field via the international marketing functional area (Craig and Douglas 2005; Douglas and Craig 1997).

In international marketing and in IB, the units of analysis are frequently cross-cultural groups, consumers, managers, multinational teams and corporations or simply categories based on multiple national divisions. Depending on the emic-etic research orientation, researchers may start out either with specific etic (outsider) categories, imposing these on multiple groups until additional emic (insider) categories emerge, or they may start with emic perspectives in an effort to understand multiple cultures or national groups in depth. The latter approach is likely for research at the initial stages of theory building. However, in either of these situations, emic perspectives will generate insider or native categories (Buckley and Chapman 1997) and terms which, if used for further studies outside the original group, require translation and updating. To this end, comparisons become ever more difficult, as multiple data collection units are involved and operational challenges related to the philosophical emic-etic positions are more pronounced. In operational terms, the negotiation and re-negotiation of concepts, the interaction between theoretical position and the qualitative process is fundamentally more difficult in international research. Hence, the research process is likely to be non-linear and hard to represent truthfully if traditional linear/deductive conventions are followed.

Given the challenges outlined regarding the interaction between theory and data in qualitative research in general and the challenges for international qualitative research in particular, we call for a move towards a dynamic, progressive and non-linear process model in qualitative research. This is outlined in the subsequent section.

Towards a dynamic, progressive and non-linear process in qualitative research

In making a call for a more explicit recognition and acceptance of the flexibility and fluidity of qualitative research, we view these characteristics as strengths rather than weaknesses of qualitative methods. We argue that – rather than separate stages – the typical parts of the research process are better conceptualised as tasks whose progression follows a

general direction, but may be repeated to accommodate emergent questions and concepts. In particular, the close interaction between the development of theoretical and conceptual foci, data collection and data analysis needs to be acknowledged as potentially fluid and emergent. Researchers may start out with *etic* (outsider) questions, i.e. theoretical viewpoints, and concepts developed from theory and imposed on the subject of the research, but encounter unexpected *emic* (insider) questions and concepts in the field that emerge as more fitting, interesting or appropriate for the research and its context (Buckley and Chapman 1997; Davidson et al. 1976; Morey and Luthans 1984; Mott-Stenerson 2008; Pike 1966). Such emic questions and concepts can have a major impact on the subsequent course of the research – triggering the refinement or even reformulation of the original research questions and their theoretical and conceptual foundations, re-shaping the initial case boundaries or necessitating a return to the field. Influential commentators such as Eisenhardt (1989, p.536) have long acknowledged that research questions may shift during the study, but tended to treat this as an 'extreme' case. In contrast, we argue that this is not extreme, but normal and to be expected. As Diefenbach (2009, p.877) notes, "Qualitative researchers should feel encouraged to ask themselves throughout the whole research process whether they ask the right questions, to change these whenever it seems appropriate, to challenge even their most basic assumptions and to see 'things' from as many different perspectives as possible".

In the IB field, we observe a tradition of describing qualitative research methods as either inductive or deductive (Golden-Biddle and Locke 2007; Orton 1997) with papers positioned as deductive in the majority (Welch et al. 2010). In contrast, our experience suggests that qualitative findings often evolve continuously via the interaction between theory and data, often through a cyclical process which we call *progressive focusing*[3]. The idea behind progressive focusing was first noted by Parlett and Hamilton (1972), who advocated an approach where "researchers systematically reduce the breadth of their enquiry to give more concentrated attention to the emerging issues" (Parlett and Hamilton 1972, p.18). This perspective was taken up and refined by Stake (1981, 1995, 2010) who formally described progressive focusing as follows:

> *"Progressive focusing requires that the researcher be well acquainted with the complexities of the problem before going to the field, but not too committed to a study plan. It is accomplished in multiple stages: first observation of the site, then further inquiry, beginning to focus on the relevant issues, and then seeking to explain." (Stake*

[3] For similar concepts, see also *cycles of deliberation* (McGaughey 2004, 2007), *systematic combining/abductive approach* (Dubois and Gadde 2002), *zipping* (Orton 1997) and *evolution of perspective* (Peshkin 1985).

1981, p.1)

In other words, the researcher starts with a research focus and initial framework derived from the literature (etic questions), but remains strongly open to the possibility of significant modifications to these, driven by emic questions arising from the field. This approach acknowledges the importance of theory and context: it explicitly builds the contextualisation of theory into the research design, and a degree of flexibility in is retained in all parts of the research process.

Progressive focusing differs from grounded theory, even though they are both concerned with iteration and constant comparison between theory and data. The main difference is that progressive focusing starts with a thorough review of the relevant literature, whilst in grounded theory, prior reading "is vital, but in a substantive field different from the research…Comparable works are not consulted in order to avoid internalising the perspectives and hypotheses of scholars in the immediate field of study" (Goulding 1998, p.53). Whilst grounded theory is generally viewed as an inductive approach, progressive focusing is best described as *abductive* or *retroductive* (see Dew 2007; Locke, Golden-Biddle and Feldman 2008; Peirce 1960; Van de Ven 2007). Abductive reasoning is a pragmatic approach which involves using existing theoretical explanations to make inferences about data, and accommodating surprising or anomalous patterns by modifying the existing theory, with the ultimate aim of finding the most plausible way to explain what is happening (Bringer, Johnston and Brackenridge 2004; Locke, Golden-Biddle and Feldman 2008). As such, progressive focusing shares key similarities with the *systematic combining* approach advocated by Dubois and Gadde (2002), in that both approaches use abductive reasoning and revolve around a central idea of trying to match theory and reality, directing and redirecting the research focus accordingly. The advantage of such an approach is that it combines *loyalty to the existing theory* with *loyalty to the new data*, rather than taking sides (see Jaccard and Wan 1986; Orton 1997). As a result, the aim of progressive focusing is neither *theory generation* (induction), nor *theory testing* (deduction), but *theory development/refinement* (abduction). If done well, progressive focusing has the potential to be both rigorous and relevant, and may help achieve objectives of more engaged scholarship (Van de Ven 2007).

Given the importance of pre-fieldwork preparation, coupled with openness to emic issues, we argue that the six-stage model of the research process discussed earlier should be refined to accommodate a progressive focusing approach.

Insert Figure 2 about here

The progressive focusing model in Figure 2 differs from the original model shown in Figure 1 in a number of ways. Firstly, although the general direction of the research flows from problem definition based on existing theory towards developing a new or refined theory through deep engagement with data, the order in which research activities take place is highly flexible and involves going back and forth. To reflect this, 'stages' have been replaced with 'tasks', to represent the repeatability and iterative nature of various research activities. In Task 1 *(Theoretical Basis)*, 'getting started' is broken down in detail to reflect the importance and complexity of the research imperatives characterising the beginning of a new research project: choosing a topic and conducting a thorough literature review to build the theoretical and conceptual foundations of the research (including the articulation of basic assumptions, logic and expectations). The task of developing research objectives and research questions has also been moved into Task 1, as it is closely intertwined with the literature review – the research questions should be clearly rooted in the theoretical/conceptual foundations and literature gaps identified through a review of existing research. Given the abductive nature of progressive focusing, the research objectives/questions may be modified or even shifted as a result of refining the research design, emergent constraints or new avenues regarding sampling and access, as well as the collection and analysis of new data – hence the multiple arrows leading to and from Task 1.

Task 2 *(Research Design)* focuses on the logic behind the operationalisation of the study's research questions: the researcher draws up a 'blueprint' seeking a good fit between theoretical foundations, epistemological assumptions and practical feasibility issues. Building sound logic and a coherence of ideas, with the input of fellow academics, forms an essential part of this task. Whilst it is advisable to build a robust research design that can be followed consistently throughout the study, the progressive focusing approach recognises that issues arising during sampling and access negotiations (for example the withdrawal of participating research cases, sites or key informants) may necessitate the thoughtful modification of the research design, hence the arrows in both directions between Tasks 2 and 3.

As before, Task 3 *(Sampling & Access)* is concerned with moving the research 'out into the field' by choosing a purposive sample. Where possible, the use of *theoretical sampling* (Glaser and Strauss 1967; Teddlie and Yu 2007), i.e. the sequential sampling of

cases or sites driven by findings from earlier cases or sites, is particularly appropriate to enable progressive focusing. Admittedly, in many cases, sampling and context are influenced by pragmatic issues such as pre-existing contacts or ease and level of access – as a result, Task 3 could involve prolonged negotiations, or alternatively even precede Task 1. The researcher's sampling strategy may also evolve over time, driven by newly emerging theoretical avenues, modifications to the research design (e.g. expanding or reducing the number of research cases or sites) or information collected through fieldwork (e.g. 'snowballing' leads (Patton 1990)). This is indicated by multiple arrows in our process model.

In general, once the first three tasks have been accomplished to a satisfactory degree, it is time for the researcher to enter the field in earnest. Task 4 *(Fieldwork)* contains the task of collecting and preparing primary data. It is directly driven by the researcher's sampling and access strategy (Task 3), but may also be affected by new analytical insights (necessitating repeat interviews, for example) or the emergence of new theoretical avenues (which are often manifested in evolving interview protocols). As such, Task 4 also has multiple arrows connecting it with other parts of the research process.

Task 5 *(Analysis)*, involves the task of formally analysing the data, although it is commonly accepted that in qualitative research, informal data analysis begins as soon as the researcher enters the field (Eisenhardt 1989). In our model, Task 5 is tightly linked not only with Task 4 *(Fieldwork)*, but also with Task 1 *(Theoretical Basis)*. In a progressive focusing approach, existing theory is not expected to provide a complete fit with the data, and neither the theory nor the data takes precedence over the other (see Jaccard and Wan 1986). When differences arise between theory and reality, as they inevitably do (Dubois and Gadde 2002), the researcher moves back and forth between analytical insights and alternative theoretical explanations in an imaginative and interpretive manner (Bringer, Johnston and Brackenridge 2004), as well as returning to the field as necessary. Once a plausible (although not necessarily exclusive) explanation is found, the researcher may move on to Task 6 *(Findings)*, which involves developing and articulating the key arguments and modifications to existing theory as well as the overall contributions of the research. However, even at this final stage, explanations remain *defeasible,* meaning that they are subject to further modification or disproval, should further studies produce a better explanation (Dew 2007; Locke, Golden-Biddle and Feldman 2008).

Arguably, progressive focusing based on abductive reasoning can be seen as an intuitive, subjective and interpretive activity (Bringer, Johnston and Brackenridge 2004;

Locke, Golden-Biddle and Feldman 2008; Teagarden and Von Glinow 1997). If the researcher feels that crucial data or insights are missing, or that the theoretical framework developed in Task 1 is inadequate to explain the phenomena that really seem to be happening in the field, it is logical to repeat any of the tasks outlined in our model, more than once if necessary. The goal of 'closest and most plausible fit' between theory and data, as well as practical constraints (such as research funding or the availability of informants) means that qualitative researchers may end up alternating between various tasks in a cyclical manner, until such a point where they are satisfied that their theoretical focus, empirical data and potential contribution are in line with one another. The point at which this is achieved – and the number of iterations between the research tasks – differs across research projects, due to the complexities of qualitative research and the varying degree of experience and skill amongst qualitative researchers.

CAQDAS as a facilitator of the dynamic, progressive and non-linear qualitative research process

Whilst we advocate that our refined model (Figure 2) offers a better approximation to the 'true' nature of qualitative research than previous models, there are is an inherent danger that a call for acknowledging flexibility and progressive focusing in qualitative research may be misinterpreted as a call for leniency towards lack of rigour or systematic research procedures. In fact, qualitative research is rife with accusations of lack of rigour, misuse of concepts such as grounded theory and opacity in describing research methodology (Jones and Noble 2007; Suddaby 2006). To tackle these kinds of criticism, we encourage the use of CAQDAS during each of the six tasks in our model. The use of CAQDAS is suggested to accommodate the non-linear and evolving process of interaction between qualitative data and the theoretical and conceptual backbones of research, whilst helping in the operational management and formal write-up of the research. To this end, CAQDAS is simply seen as a meritorious tool that helps in legitimising the acknowledgement of complexity and 'messiness' in the conducting and reporting of qualitative research. The ability of this tool to consolidate the project, combined with the enabling function for researchers to share, revisit, and extend a project, offers a considerable advantage. Researchers may take more risks and pursue new ideas without having to worry about the time required to do or undo their exploration (Séror 2005). Furthermore, a transparent account of the use of CAQDAS, together with a systematic, comprehensive and exhaustive audit-trail of their analysis of corpus-data provides greater transparency and credibility, otherwise called 'trustworthiness', and may

help to address equivalence issues in international business (Ghauri and Firth 2009; Sinkovics, Penz and Ghauri 2005, 2008). As Bringer et al. (2004, p.262) state, "Transparency is necessary for accountability", as it allows an informed discussion about the analytical process and helps to ask questions about the congruence between methodology, the data analysis and the findings.

In our view, CAQDAS provides a toolset for the analysis of abundant qualitative data that can be understood similar to *decision support systems* used by practitioners (Shim et al. 2002). Following Little's 'decision calculus', we believe qualitative research will benefit from using this toolset, as it is "simple, robust, easy to control, adaptive, complete on important issues and easy to communicate" (Little 2004, p.1855), allowing qualitative researchers a 'dialogue with the computer' and thus a greater degree of effectiveness at each task of the research process. This is achieved through documenting the interactive process of going forwards and backwards between theory and the field – in effect, creating an auditable 'footprint' of the progressive dialogue between the researcher and their data. In doing so, we believe that CAQDAS can help researchers define the space in between the two opposing views that dominate qualitative research debates today: the highly inductive grounded theory approach promoted by Glaser (Glaser 1992; Glaser and Strauss 1967), and the highly structured, deductively oriented, linear qualitative analysis advocated by Yin (2003). In essence, the debate between these opposing views is a debate about the relative importance of creativity versus formalisation, of meaning versus validity. We believe that the two are equally important and achievable through an emphasis of strong research logic, flexibility and thorough documentation. This is in line with Eisenhardt and Graebner (2007, p.30), who advocate "processes that are reported with transparent description, particularly regarding how findings were induced from the data". CAQDAS can therefore assist qualitative researchers in managing each task of the research process and in making their methodology more accessible to peers and reviewers, whilst accommodating progressive focusing.

The rigorous (but not rigid) pursuit of dialoguing between theory and data, as stored on the computer, will encourage qualitative researchers not only to formally articulate their fundamental research logic and underlying assumptions, but also to engage in greater self-reflexivity and awareness. Successive iterations between theory and dataset help researchers to "proceed systematically and consistently" and enrich conceptual understandings (see Welch et al. 2010, p.5). It will force them to think critically about the justifications for each decision made during the research process. Such decisions may involve including or

excluding particular literature streams; focusing on particular theoretical concepts; imposing limits on the boundaries of the research; and even the triangulation of conflicting or inconclusive findings. Weick views theorising as disciplined imagination, and argues that "we cannot improve the theorizing process until we describe it more explicitly, operate it more self-consciously, and decouple it from validation more deliberately" (Weick 1989, p.516). Critical reflections on these issues and the explicit consideration of possible alternative choices and explanations may be regarded as the cornerstone of good qualitative research (Lincoln and Guba 2002; Seale 1999).

It should be noted that, like any other tool, CAQDAS can be used well or used badly. It is up to the individual researcher – and those involved in their training and guidance – to ensure that expectations are appropriate and realistic. We believe that CAQDAS is neither a shoehorn for forcing qualitative research into a set of mechanistic criteria, nor a cover-all for superficial research or an 'anything goes' attitude. It is a tool for enhancing transparency and openness when generating theory from qualitative data, but we are not claiming to profess any universal rules, or that the use of CAQDAS will automatically improve quality. Thus, on the one hand, we would urge researchers to acknowledge the nonlinearity, fluidity and 'moving goalposts' that characterise the qualitative research process – whilst on the other hand, we encourage the careful and detailed documentation of that process. It appears that somequalitative researchers – particularly those who are new to academia – fear that by closely documenting the often unexpected twists and turns of their research, they are laying themselves open to criticism from quantitatively oriented peers (whose research tends to follow more linear paths). However, it should be recognised that in qualitative research, the realistic purpose of a systematic audit trail is not to *ensure replicability*, but precisely to highlight and explain the idiosyncrasies of each qualitative research project that *preclude replicability*. As such, we argue that CAQDAS may enable the production of robust and defensible qualitative research that can stand up to close scrutiny.

Methodology and application to data

In this section, we use the example of a doctoral case study research to illustrate the practical application of CAQDAS (in particular, the NVivo software) during each task of the progressive focusing model in Figure 2. The research, which consists of a single in-depth case study of knowledge transfer and regional governance in a large multinational company, provides an illustration of progressive focusing and shows how CAQDAS can assist the

systematic management of the research process as well as enhancing overall trustworthiness and credibility. The *organising figure* (see Pratt 2009) in Figure 3 shows a timeline of the study, with the actual research process divided into seven distinct phases of varying lengths.

Timeline of the qualitative research project

Phase 1 of the study encompassed Tasks 1, 2 and 3 of the progressive focusing model shown in Figure 2. Most of this phase consisted of a thorough review of theories of the multinational enterprise, subsidiary management, knowledge transfer and management and organisational learning (Task 1). Based on this, research questions were developed concerning the nature of knowledge transfer in multinational companies, with particular focus on two phenomena: *reverse knowledge transfer* (knowledge created at the subsidiary, then transferred to headquarters (HQ)) and *secondary knowledge transfer* (subsidiaries adapting knowledge received from HQ and transferring it to other subsidiaries in the intra-company network). Given the scarcity of extant research on these types of knowledge transfer and the exploratory nature of the research questions, a qualitative case study methodology was designed, based on social constructionist epistemology (Task 2). A constructionist approach is particularly appropriate for exploratory qualitative research, since it views data as jointly constructed and interpreted by the respondent and the researcher, and focuses on the *meaning* of phenomena rather than seeking to prove or disprove 'the truth' (Crotty 1998; Stake 1995).

Insert Figure 3 about here

Hungary was chosen as the geographical context for the study, partly because of its status as a favoured 'regional hub' of Western multinationals seeking to gain a foothold in Central and Eastern Europe (CEE); and partly because of the researcher's competence in the Hungarian language, which allowed interviews to be conducted in respondents' mother tongue. Initially, a multiple case study design was envisaged and a purposive sampling process was conducted (Task 3). This entailed contacting the local subsidiaries of the 40 largest foreign multinationals present in Hungary and seeking out those that claimed to be engaged in local knowledge generation and transfer to the headquarters (reverse knowledge transfer) as well as transferring knowledge to other subsidiaries in the CEE region (secondary knowledge transfer). After a short negotiating stage and with the help of some pre-existing contacts, three companies agreed to participate in pilot interviews. Phase 2 of the research

consisted of conducting and transcribing these pilot interviews, and analysing and comparing them with the theoretical literature. The analysis of pilot data led to a substantial revision of the conceptual background and research questions developed during Phase 1, as empirical evidence for the etic (researcher-imposed) concepts of reverse and secondary knowledge transfer was relatively weak at each of the three companies. This was a clear case of the original etic questions proving unsuitable in the field. In such cases, Stake (1995) notes that "initial research questions may be modified or even replaced in mid-study by the researcher". In addition, the pilot data also revealed that in two of the three companies, the links between subsidiaries within the CEE region were either weak or limited to a small part of the organisation. Only one company indicated extensive, ongoing links between its Hungarian unit and other subsidiaries in the region. As a result, a decision was made to amend the multiple case study design to a single in-depth case study. Although this may seem like a major change in terms of research design, it did not entail major changes to the underlying research logic. Since the research was still in its early stages, with fieldwork yet to have progressed beyond pilot interviews, it was considered acceptable to eliminate the anticipated comparison element, thus simplifying and focusing the research design.

Phase 3 of the research process involved conducting several interviews at the Hungarian subsidiary of the focal company. Faced with the considerable size and complexity of the subsidiary's overall operations, the empirical focus was narrowed to a specific division, *trade marketing* (a division that provides services to retail customers and also acts as a link between the sales and brand marketing divisions). The rich data generated from these interviews also revealed a complex, formal regional hierarchy between the Hungarian unit and two other subsidiaries in Slovenia and Croatia (forming what was termed a *cluster*). This inspired a literature review of previously unexamined theoretical areas: *regional integration and responsiveness* (Lehrer and Asakawa 1999) and *subsidiary mandates* (Birkinshaw 1996) and fostered theorising about new concepts such as *regional administrative mandates*.

Having gathered and analysed data from Hungary, Phase 4 involved data collection from the company's units in Slovenia and Croatia, which were formally linked to the Hungarian unit. Not only did this data provide an alternative empirical perspective on the issues investigated so far, but also highlighted the relevance of other related concepts such as *inter-unit ties* (Hansen 1999), *corporate socialisation* (Björkman, Barner-Rasmussen and Li 2004) and *motivation for knowledge sharing* (Osterloh and Frey 2000). This triggered a return to the theoretical literature and a search for conceptual linkages with knowledge transfer and

regional management. Subsequently, Phase 5 entailed telephone interviews aimed at following up and extending the previous findings to another division, *brand marketing*, which was emerging as a contrast to the trade marketing division in terms of reporting structure and knowledge transfer links. There was also some hard-won input from the company HQ on wider regional perspectives, but not enough to justify a continued focus on HQ-subsidiary knowledge transfer without the danger of biased representation. As such, the 'natural boundaries' of the case were discovered (and to a certain extent, imposed by the researcher) in a progressive manner. Phase 5 involved major refinement of the research focus, since by this point (even though some unsuitable etic concepts had been shed) the growing number of complex, interconnected emic concepts was threatening the manageability of the research. Thus, a decision had to be made to tighten the focus of the research and concentrate solely on the concepts and issues that most directly affected knowledge transfer between subsidiaries.

The final data collection took place in Phase 6 and primarily focused on the brand marketing division, in order to further strengthen the contrast with the trade marketing division. In addition, the final interviews provided insights suggesting the presence of *role stress* (Wong, DeSanctis and Staudenmayer 2007) as a factor in the units' difficulties in sharing knowledge effectively. This prompted an investigation of the role stress literature and its links to knowledge transfer, as well as a careful re-examination of previously collected data for references implying role stress. The final theoretical and empirical analysis showed a degree of theoretical saturation that was deemed sufficient to move on to Task 6: articulating the arguments and contributions of the research. Accordingly, the concluding phase (Phase 7) consisted of writing-up and *member checking*, i.e. asking respondents' to review the material for accuracy (Stake 1995).

Our example illustrates the complex, emergent and idiosyncratic nature of a typical qualitative research project and progressive focusing characterised by phases of cyclical interaction between theory, data collection and data analysis. We argue that non-linear approaches are more common than the reporting of qualitative research in top journals would suggest, and concur with other scholars urging qualitative researchers to "reveal the actual course of decision-making, breakthroughs and dead-ends in conceptualization" (Silverman 2000).

Application of CAQDAS during each task of the research process

We use specific examples from the project described above to illustrate how

CAQDAS (in particular, NVivo) may be used to manage and document rich data and complex analytical processes during each of the six tasks of the progressive focusing model.

Task 1: Choosing a topic, literature review, development of theoretical/conceptual foundations and research questions

Choosing a general research topic and developing it into a specific research objectives and questions is a complex process, during which researchers are often daunted by the need to "run a miniature evolutionary system in a head that suffers from bounded rationality" (Weick 1989, p.529). Documenting literature searches, proposed titles, evolving ideas and questions in the form of *project memos* can be an effective way of managing this process (see e.g. Andersen and Skaates 2004; Peshkin 1985). Keeping detailed and organised memos will not only aid Task 1 in real time, but also allow the researcher to assess, describe and reflect on the evolution of key perspectives, conceptual drivers and intended contributions throughout the project or in retrospect (e.g. writing up manuscripts). Most types of CAQDAS have a facility for creating, organising and storing memos within a single project file, which has obvious advantages over manual records in terms of convenience and ease of handling.

During Task 1, a thorough, critical and rigorous literature review is crucial for building up a robust theoretical basis for the study, accurately defining a gap in the literature and developing the core focus and research questions of the study. In the business and management discipline, *narrative reviews* are the norm, which are "singular descriptive accounts of the contributions made by writers in the field, often selected for inclusion on the implicit biases of the researcher" (Tranfield, Denyer and Smart 2003, p.208). One reason for this is that the *soft, applied, rural* and *divergent* nature of business and management research (Tranfield and Starkey 1998) generally precludes a more methodical approach, such as the *systematic reviews* found in medical science and healthcare (see Davies and Nutley 1999; Tranfield, Denyer and Smart 2003). Nonetheless, we believe that even if truly systematic literature reviews are not achievable in qualitative business and management research, there is room for enhancing the credibility of narrative reviews. Greater rigour can be achieved by meticulously documenting literature searches, key words and arguments, and systematically extracting information about existing works in order to build a 'casebook' of references. There are several kinds of software specially designed to aid this task, for example bibliographic software such as EndNote or RefWorks, or database management software such as Microsoft Access. We recommend that researchers explore these kinds of software and actively use them during their review of the literature. At the same time, we concur with

DiGregorio (2000) and Wickham and Woods (2005) that the use of these aids can be further augmented by the use of CAQDAS. A literature review "can in many respects be considered another form of qualitative data analysis" (Wickham and Woods 2005, p.690), in that both of these tasks involve recording the key attributes of each source and coding its content., Hence, using CAQDAS to catalogue and analyse *both* literature and data can help create a high degree of *project unity* (Séror 2005; Weitzman 2003), in that it makes both the theoretical and empirical inputs quickly accessible in one place, thus aiding iteration between the two.

In Figure 4 below, a list of the key journal articles related to regional management in multinational companies was compiled by importing abstracts[4] into NVivo and coding them as individual cases. A number of key attributes were defined (journal star rating, study methodology etc.) and values assigned for each case. This approach not only allowed the researcher to keep a comprehensive, searchable record of the literature used, but also enabled a matrix data display (see Miles and Huberman 1994) of the articles in NVivo and filtering by attributes to identify general trends. For example, Figure 4 suggests that multiple case studies are the dominant method used in the area of regional management, which facilitates more robust arguments about the state of the art in the field than anecdotal citations alone.

Insert Figure 4 about here

In addition to building an organised and searchable casebook, DiGregorio (2000) notes that NVivo's text coding facilities can aid tasks such as critiquing particular pieces of literature, aggregating themes and building arguments supported by the literature. Overall, we believe that for complex qualitative research projects, the initial time outlay on importing references, generating casebooks and coding documents is more than compensated by the facilitation of a more efficient, systematic and productive 'digestion' of the literature.

[4] A preferable method would be to import the entire document where possible, which allows the coding of content as well as the recording of key attributes. Whilst this can easily be done in the case of Word files, the majority of journal articles are accessed online as PDF documents, which in our experience often poses practical problems. In principle, newer versions of NVivo (8 and 9) can handle PDF files, however, many PDF documents (especially older ones) tend to be very large files or lack text recognition, and as yet, NVivo does not appear to have sufficient processing power to manage these efficiently. Nonetheless, given that many PDF texts can already be highlighted and annotated in freely available software such as Adobe Reader X, we believe that this limitation is likely to diminish in the future as more powerful versions of NVivo are developed.

Task 2: Research design

The aim of Task 2 is to develop a robust research design that fits the underlying research questions and logic. The research design should be underpinned by a sound understanding of epistemological conventions and the explicit articulation of what the study is trying to achieve. During deliberations on issues such as what epistemological perspectives, methodologies and specific methods are most appropriate for the study, CAQDAS can enable a more systematic endeavour, by allowing source materials on various epistemologies, methodologies and methods to be catalogued in much the same way as items in the literature review described in Task 1. Keeping project memos, developing thematic coding schemes of methodological texts and building a casebook of methodological exemplars can make it easier for the researcher to evaluate the suitability of a proposed research design, by facilitating constant comparison between the research questions/objectives and various methodological texts/exemplars. Thoughtful documentation of the justifications used for methodological decisions throughout the research project encourages ongoing reflection and awareness of how well the research design fits with the research objectives and questions. As we argued before, in a progressive focusing study, these objectives and questions are likely to be constantly evolving (ranging from subtle refinements to major shifts in focus), which means that the systematic documentation and analysis of alternative methodologies and exemplars using CAQDAS can offer significant benefits for qualitative researchers.

Task 3: Sample, context and negotiating access

Since purposive sampling, choosing a suitable context and negotiating access tend to be largely 'hands-on' activities, CAQDAS is likely to take a back seat during this task. Nonetheless, its memo writing and organising functions may also prove useful here. As first impressions and observations during access negotiations and initial rapport-building with specific organisations or respondents can prove a rich source of useful data later on (Lee 1999), it makes sense to record and catalogue them in memos. In our example, memos were kept about each of the six companies that responded positively to the researcher's initial email request, and a comparison of these memos helped the researcher to identify those three companies with whom formal pilot interviews would be conducted.

Task 4: Data collection and preparation

During this task, CAQDAS can be a very valuable aid through facilitating the collation of data from primary and secondary sources in a single place. Word-processed data such as

interview transcripts, market reports and company documentation can be directly imported into the project file; field observations can be recorded in memos; and visual or aural data (sketches drawn by interviewees, photographs, voice files, videos etc.) can be linked to the project file externally. As a result, the project file can be treated as a 'hub' for the cataloguing of data collected from various sources over time. Similarly to the literature casebooks we advocated in Task 1, we also recommend building a casebook of respondents by coding them as cases and categorising them by key attributes such as nationality, managerial level, functional division etc. Using these attributes for coding queries during data analysis (see the next section) enables the researcher to spot trends they might otherwise miss (e.g. a particular issue affects higher- and lower-level employees differently, or similar views on a key subject may be held by employees who began working in the organisation around the same time). In addition, CAQDAS allows the researcher to highlight relationships between respondents (e.g. organisational hierarchies, mentions and recommended leads) which can help make sense of complex organisational structures (as we found in our case) and shed light on how individual respondents' perspectives may be shaped by other respondents within their networks. Below, Figure 5 shows an example of the coding of data sources such as interviews as cases, creating and assigning key attributes and charting cases according to certain attribute values.

Insert Figure 5 about here

In our example, the chart shows the overall distribution of respondents according to their formal work level in the company. It can be seen that the largest number of interviews was conducted with respondents at the middle manager level (WL3 in the case company), followed by operational-level managers (WL2), country group-level directors (WL4), junior employees (WL1) and finally regional or HQ-level directors (WL5). In this study, interviews with middle managers were especially important as these employees are seen as critical 'roadblocks' for transferring knowledge within multinational companies (Mäkelä and Seppälä 2005). Charts like these can be used as a gauge between periods of data collection to decide which 'snowballing' leads (Patton 1990) to follow and what level of respondents to approach next, given resource and access constraints. The ability to keep track of the balance of respondents, maintain searchable descriptive casebooks and chart them according to researcher-defined attributes can be especially useful for large projects with considerable diversity amongst respondents.

Task 5: Data analysis

Amongst all six tasks of the qualitative data analysis process, data analysis is perhaps the most obvious task to benefit from the application of CAQDAS, and a lot has been written about the use of CAQDAS for data analysis (see e.g. Ghauri and Firth 2009; Lindsay 2004; Maclaran and Catterall 2002; Sinkovics, Penz and Ghauri 2005). CAQDAS is a powerful platform for formally articulating and defining codes and themes that form the backbone of qualitative data analysis. According to Bazeley (2009), CAQDAS allows more complex and detailed coding than manual thematic sorting, potentially leading to greater insight during the analytical process. Another major advantage of CAQDAS is that it facilitates the abductive nature of a progressive focusing approach, by allowing the researcher to "pursue wild hunches in all directions" (Richards and Richards 1991, p.308) without having to waste time on complex reverse-engineering of exploratory analytical decisions that turn out to be fruitless. The competent and systematic use of CAQDAS can also help establish a *chain of evidence* (Yin 2003, 2009) or *audit trail* (Anfara, Brown and Mangione 2002) that truthfully represents the activities contained in the process of data analysis: organising and coding the data, searching for patterns, making constant comparisons with theory and modelling emergent frameworks[5]. By systematically linking and organising multiple sources of data, CAQDAS can also aid in tackling the problem of *anecdotalism* or *exampling* that qualitative research is often accused of (Gephart 2004; Silverman 2005). As noted already in Task 1, using CAQDAS can allow the researcher to effectively document and manage the ongoing evolution of complex and closely interlinked components of the study, such as alternating sequences of data collection and analysis and the gradual refinement of theoretical explanations, which are the hallmarks of progressive focusing.

In our example, as the timeline in Figure 3 shows, the cyclical process of going back and forth between the theoretical foundations of the study and the field yielded emergent themes and concepts that were significant both in their number and in their influence on the study. New batches of data were analysed in an ongoing manner using two basic analytical strategies, both of which form an integral part of qualitative data analysis (Richards 2005): *topic coding* (aimed at making sense of rich, complex data that has been newly gathered) and *analytical coding* (coding data into an evolving structure based upon the theoretical focus of

[5] In particular, the development of visual models based on coding templates is facilitated by the modelling function in software such as NVivo: the researcher can work on a dynamic version of their model in a continuous manner, whilst also saving static versions of the model at different points in time, thus tracking the evolution of the research model.

the study and the analyst's *ongoing interpretation* of the action).

Figure 6 shows snapshots of two versions of the evolving topic coding scheme from Phases 4 and 6 of the research process, as well as the final analytical coding scheme. The first version consists of 37 codes which include contextual information about the company (operations, trade marketing function, reporting lines), and focus primarily on the construct of knowledge transfer, the underlying theoretical driver of the research. It also contains an early conceptualisation of subsidiary mandates, broken down into management mandates and knowledge transfer-related mandates.

Insert

Figure 6 about here

Tracing these constructs to the second version of the coding scheme (created several months later), the number of codes has expanded to 93, with emergent topics such as subsidiary mandates conceptualised in more detail and incorporating formal mandate task classifications brought in from a different literature field. The construct of knowledge transfer is elaborated in detail and although the codes are still primarily descriptive (making sense of the data), they now include new conceptual aspects such as the formality of knowledge transfer tasks. Meanwhile, contextual codes like company operations no longer occupy a prime position – nonetheless, having captured them in the earlier version of the coding scheme, the researcher was able to describe the case context thoroughly in the finished piece.

The final column in

Figure 6 shows the analytical coding scheme developed during the latter stages of the research project, which consists of 30 final codes. These codes are built on the previous topic codes, but are structured around the intended contribution of the research: hence, they no longer include certain emergent constructs such as subsidiary mandates (which have been incorporated into the concept of inter-subsidiary hierarchies) but expand on other emic constructs, such as types of role stress. Data-driven descriptive constructs, such as different knowledge transfer types, have been absorbed into more theoretical constructs such as communication frequency, corporate socialisation and motivation for knowledge transfer. As such, the final analytical coding scheme represents an intricately fused version of etic and emic insights, of theory and data, formed through repeated interaction between newly

acquired data and newly explored literature streams during this progressive focusing project.

The ability to save evolving versions of the research project within NVivo provided crucial assistance in documenting the ongoing development of the analysis and interpretation of empirical data, signposting as well as facilitating progressive focusing. We believe this example demonstrates the major role that CAQDAS can play during Task 5.

Task 6: Discussion and final write-up

It has been argued that the central problem of presenting qualitative findings is the lack of accessibility to the interpretation process itself (Andersen and Skaates 2004, p.479). To an extent, this problem can be alleviated by careful attention to the explanation and illustration of research methodology in the final output. Wickham and Woods (2005, p.698) argue that creating a CAQDAS *protocol document* can "serve as a basis for demonstrating transparency and rigour in the qualitative research process...[and] ensure that the research process is transparent to the reviewer(s)". Several scholars have called for the explicit, transparent and consistent explanation of the procedures followed during each task of the research process (Constas 1992; Eisenhardt and Graebner 2007; Gephart 2004; Weick 1989). We believe that the use of CAQDAS can go a long way to aid the endeavour of 'making the research process more public' (Anfara, Brown and Mangione 2002) by documenting and displaying the evolution of theoretical underpinnings, interview protocols, data displays and coding schemes, thus enhancing the credibility and authenticity of the research – without obscuring or distorting the emergent, nonlinear nature of the process. To this end, CAQDAS can play a significant role in constructing the methodology section of the final research report. Having a well-documented, searchable record of each task of the research process can also be a vital tool for insightful discussion and thoughtful evaluation of the research findings.

There are three brief caveats that ought to be mentioned here. Firstly, our illustration of the use of CAQDAS concerns a doctoral dissertation, which is not subject to the space limitations that journal papers are (see Anfara, Brown and Mangione 2002; Eisenhardt 1991). Nonetheless, we believe that documentation of a complex research process through CAQDAS can be similarly useful for journal submissions, particularly with regards to the ability to address reviewers' comments and questions. Secondly, since learning to use CAQDAS requires a considerable time investment, researchers need to evaluate carefully whether using CAQDAS is cost- and time-effective for small or short-term research projects (Séror 2005). Thirdly, we do not wish to imply that the use of CAQDAS will *automatically* improve the

quality and trustworthiness of qualitative research and thus confer instant credibility (see also Gilbert 2002; Séror 2005). Trustworthiness in qualitative research requires transparency, integrity, reflexivity and a degree of *metacognition,* i.e. "thinking about how and why one works in a particular way" (Gilbert 2002, p.220). Nevertheless, we hope to have demonstrated some specific ways in which CAQDAS may be used to support the practical implementation of these objectives, thereby offering the potential for better qualitative research.

Conclusions for qualitative researchers employing CAQDAS

This paper argues that the use of CADQAS such as NVivo can facilitate the qualitative research process by making all phases of investigations open to public inspection (Constas 1992), creating an audit trail (Anfara, Brown and Mangione 2002) and enhancing the trustworthiness of qualitative research (Sinkovics, Penz and Ghauri 2008). Trustworthiness is thus seen as a key dimension in the iterative and progressively focusing process of theory-data interaction. It accounts for an informed discussion about the analytical method or approach used to address the research question (Gephart 2004) and the congruence between methodology, data analysis and report of the findings (Bringer, Johnston and Brackenridge 2004). The conceptual background of this paper suggests that trustworthiness is obtained in two ways: (1) by assisting the interaction of theoretical and empirical inputs into the research; and (2) by laying down an *audit trail* or *chain of evidence* (Yin 2003). The subsequent methodology section applied this thinking to a specific qualitative data example.

Our experience is that, if used appropriately, CAQDAS can enable a logical and systematic approach, without constraining the emergent nature of qualitative data collection and analysis. Through systematising and documenting the research process, CAQDAS may be seen as a way to apply some of the strengths of quantitative research, without importing its weaknesses such as lack of flexibility.

Clearly, with the development of CAQDAS has come a debate over the appropriateness of using computers to analyse data (e.g. Catterall 1998; Fielding and Lee 1991; Kelle 1997) and cautionary tales regarding possible dangers and problems inherent in its use (e.g. Gilbert 2002; Hesse-Biber 1996; Séror 2005). Despite concerns about CAQDAS fostering a temptation to quantify, fragment or over-simplify qualitative research (Bryman and Bell 2003; Hesse-Biber 1996; Jack and Westwood 2006), our experience leads us to concur with Kelle (1997) that these dangers may have been exaggerated. Whilst there is certainly a danger of "tactile-digital divide", or possibility of a "coding-trap" (Gilbert 2002),

and the application of CAQDAS will not automatically improve quality, the possibilities that are opened up by human computer interaction and computer-assisted analysis and record-keeping (Ghauri and Firth 2009; Sinkovics, Penz and Ghauri 2005, 2008) should be acknowledged. We believe that the acronym 'CAQDAS' is somewhat of a misnomer: to the untrained ear, the use of the word *analysis* may convey an inappropriate sense of the software 'taking over the analytical process'. Nonetheless, it has long been recognised that such software was never intended to replace the researcher's unique skills in analysing and interpreting complex data (Catterall and Maclaran 1998; Gordon and Langmaid 1988; Gummesson 2005). Instead, CAQDAS is designed to facilitate the organisation and processing of data (Sinkovics, Penz and Ghauri 2008) and its application can enhance claims made by the author(s) and improve the communication of the qualitative research 'story' (Golden-Biddle and Locke 2007). Thus, far from claiming to eliminate the inherently 'messy' nature of qualitative research, CAQDAS is simply aimed at making the analysis of large volumes of data more manageable and transparent, through systematic comparison and record-keeping.

The empirical context provided in the paper relates to a project of inter-subsidiary knowledge transfer and subsidiary-level knowledge creation that spanned over a number of countries and years. With a view on the methodological purpose of this paper, the discussion of underlying conceptual and theoretical perspectives was purposefully concise. Nevertheless, the key message that we are conveying in this paper, as developed in the methodology section and depicted in Figure 3, is that CAQDAS can facilitate the move from a traditional, linear progress in qualitative research towards a dynamic, progressive and non-linear process in qualitative research. In this paper this is referred to as "progressive focusing" approach which comes to life in a dynamic interaction between concepts/theories and analysis of data. The role of CAQDAS in this fluid and dynamic interaction is to aid a process that potentially makes qualitative inquiry of textual data more logical, transparent and trustworthy. Hence, we wish to echo Van Maanen's assertion (1998, p.xxv) that "There are probably rules for writing the persuasive, memorable and publishable qualitative research article but, rest assured, no one knows what they are": we are not claiming to profess any universal rules, merely to open up perhaps useful possibilities. To this end, we hope that this paper contributes to overcome the artificially linear reporting of qualitative research in international business towards a more 'real-world' presentation, dynamic and fluid, without concealing the story or sacrificing requirements of credibility and trustworthiness in data and reporting.

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Appendix – Figures and tables

Figure 1: A linear model of the qualitative research process (1998, p.xxv)

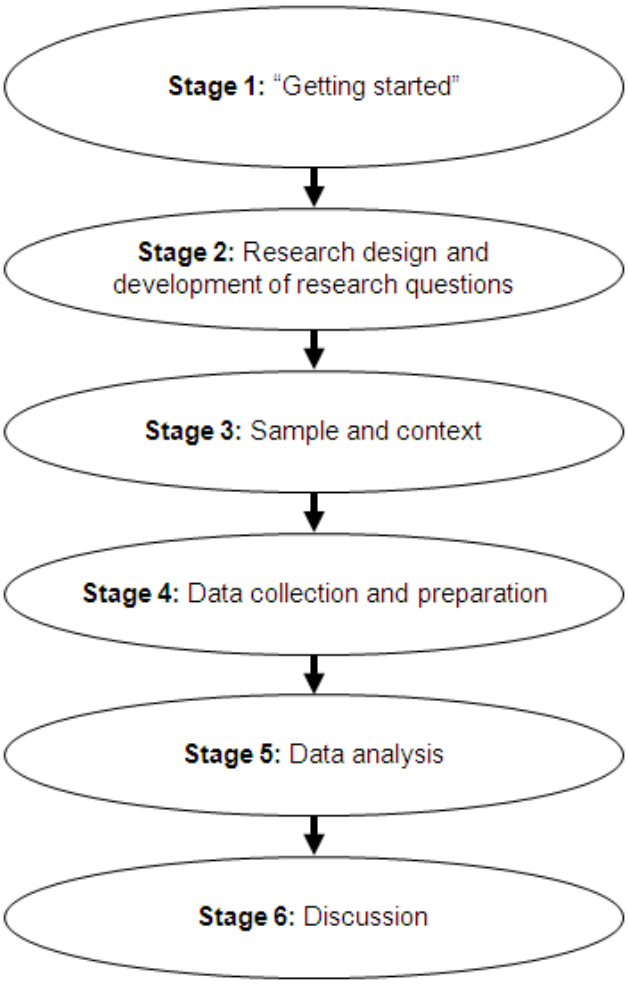


Figure 2: A progressive focusing model of the qualitative research process

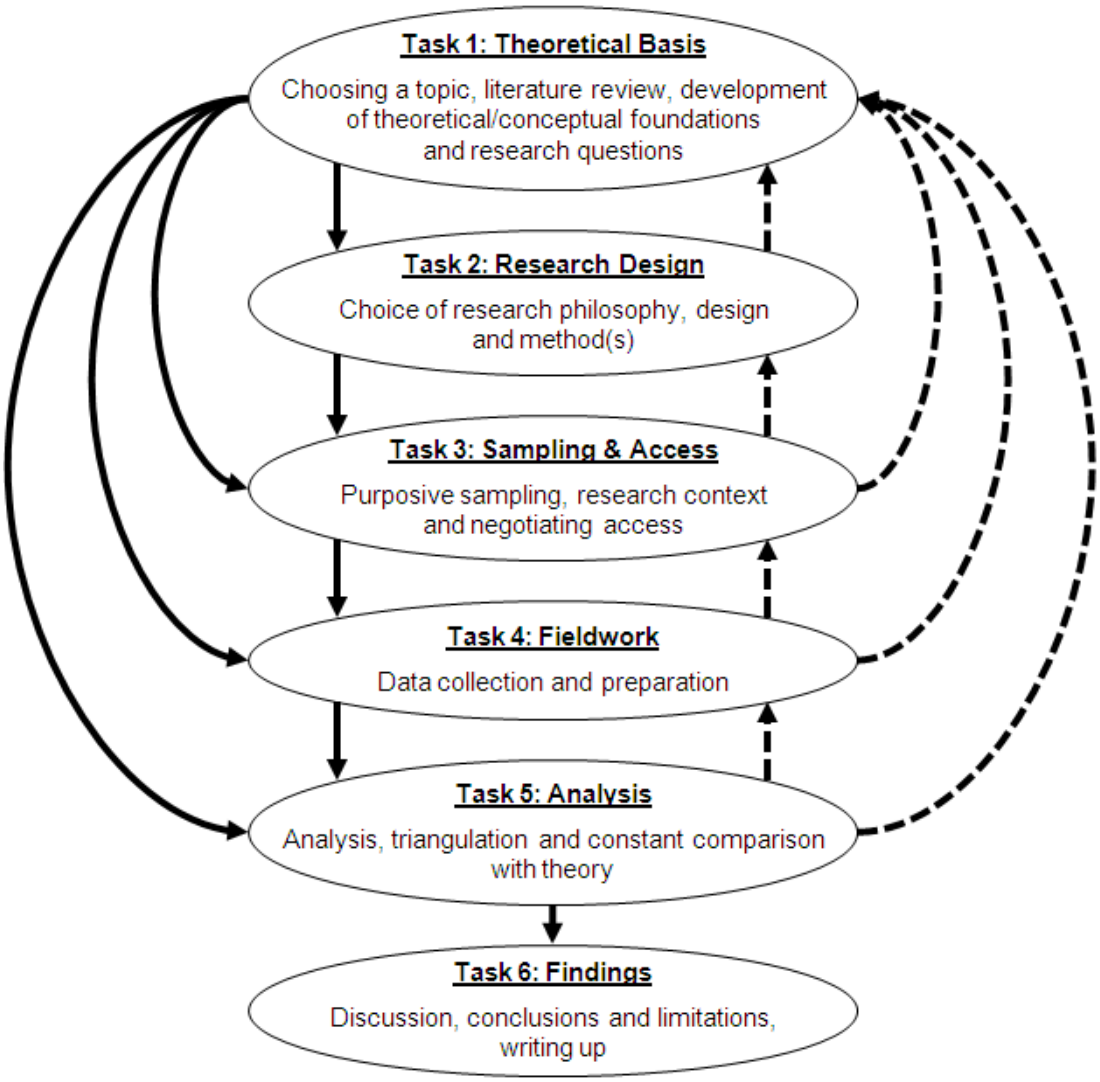


Figure 3: Timeline of research process

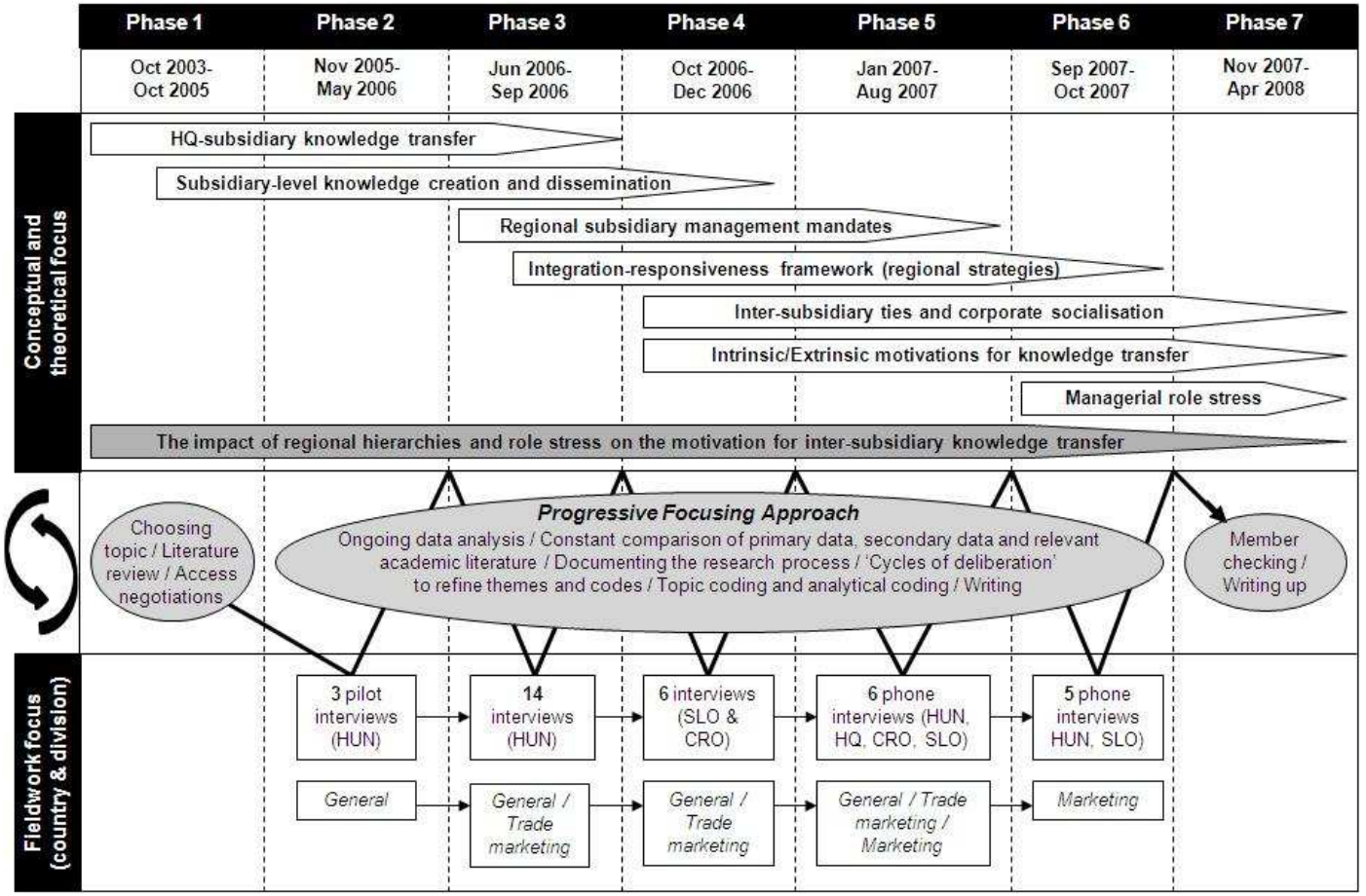
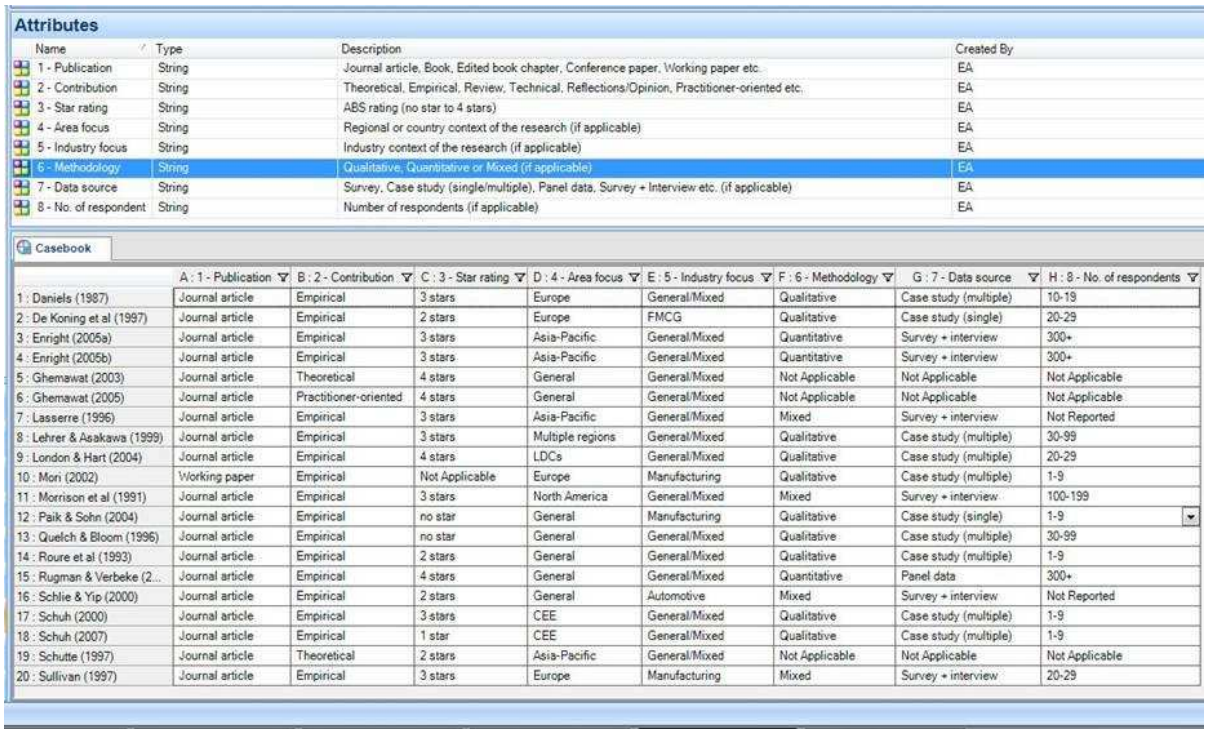


Figure 4: Example of a literature review casebook



Attributes

Name	Type	Description	Created By
1 - Publication	String	Journal article, Book, Edited book chapter, Conference paper, Working paper etc.	EA
2 - Contribution	String	Theoretical, Empirical, Review, Technical, Reflections/Opinion, Practitioner-oriented etc.	EA
3 - Star rating	String	ABS rating (no star to 4 stars)	EA
4 - Area focus	String	Regional or country context of the research (if applicable)	EA
5 - Industry focus	String	Industry context of the research (if applicable)	EA
6 - Methodology	String	Qualitative, Quantitative or Mixed (if applicable)	EA
7 - Data source	String	Survey, Case study (single/multiple), Panel data, Survey + Interview etc. (if applicable)	EA
8 - No. of respondent	String	Number of respondents (if applicable)	EA

Casebook

	A : 1 - Publication	B : 2 - Contribution	C : 3 - Star rating	D : 4 - Area focus	E : 5 - Industry focus	F : 6 - Methodology	G : 7 - Data source	H : 8 - No. of respondents
1 : Daniels (1987)	Journal article	Empirical	3 stars	Europe	General/Mixed	Qualitative	Case study (multiple)	10-19
2 : De Koning et al (1997)	Journal article	Empirical	2 stars	Europe	FMCG	Qualitative	Case study (single)	20-29
3 : Enright (2005a)	Journal article	Empirical	3 stars	Asia-Pacific	General/Mixed	Quantitative	Survey + interview	300+
4 : Enright (2005b)	Journal article	Empirical	3 stars	Asia-Pacific	General/Mixed	Quantitative	Survey + interview	300+
5 : Ghemawat (2003)	Journal article	Theoretical	4 stars	General	General/Mixed	Not Applicable	Not Applicable	Not Applicable
6 : Ghemawat (2005)	Journal article	Practitioner-oriented	4 stars	General	General/Mixed	Not Applicable	Not Applicable	Not Applicable
7 : Lasserre (1996)	Journal article	Empirical	3 stars	Asia-Pacific	General/Mixed	Mixed	Survey + interview	Not Reported
8 : Lehrer & Asakawa (1999)	Journal article	Empirical	3 stars	Multiple regions	General/Mixed	Qualitative	Case study (multiple)	30-99
9 : London & Hart (2004)	Journal article	Empirical	4 stars	LDCs	General/Mixed	Qualitative	Case study (multiple)	20-29
10 : Mori (2002)	Working paper	Empirical	Not Applicable	Europe	Manufacturing	Qualitative	Case study (multiple)	1-9
11 : Morrison et al (1991)	Journal article	Empirical	3 stars	North America	General/Mixed	Mixed	Survey + interview	100-199
12 : Paik & Sohn (2004)	Journal article	Empirical	no star	General	Manufacturing	Qualitative	Case study (single)	1-9
13 : Quelch & Bloom (1996)	Journal article	Empirical	no star	General	General/Mixed	Qualitative	Case study (multiple)	30-99
14 : Roure et al (1993)	Journal article	Empirical	2 stars	General	General/Mixed	Qualitative	Case study (multiple)	1-9
15 : Rugman & Verbeke (2...	Journal article	Empirical	4 stars	General	General/Mixed	Quantitative	Panel data	300+
16 : Schlie & Yip (2000)	Journal article	Empirical	2 stars	General	Automotive	Mixed	Survey + interview	Not Reported
17 : Schuh (2000)	Journal article	Empirical	3 stars	CEE	General/Mixed	Qualitative	Case study (multiple)	1-9
18 : Schuh (2007)	Journal article	Empirical	1 star	CEE	General/Mixed	Qualitative	Case study (multiple)	1-9
19 : Schutte (1997)	Journal article	Theoretical	2 stars	Asia-Pacific	General/Mixed	Not Applicable	Not Applicable	Not Applicable
20 : Sullivan (1997)	Journal article	Empirical	3 stars	Europe	Manufacturing	Mixed	Survey + interview	20-29

Figure 5: Example of charting cases by attribute value

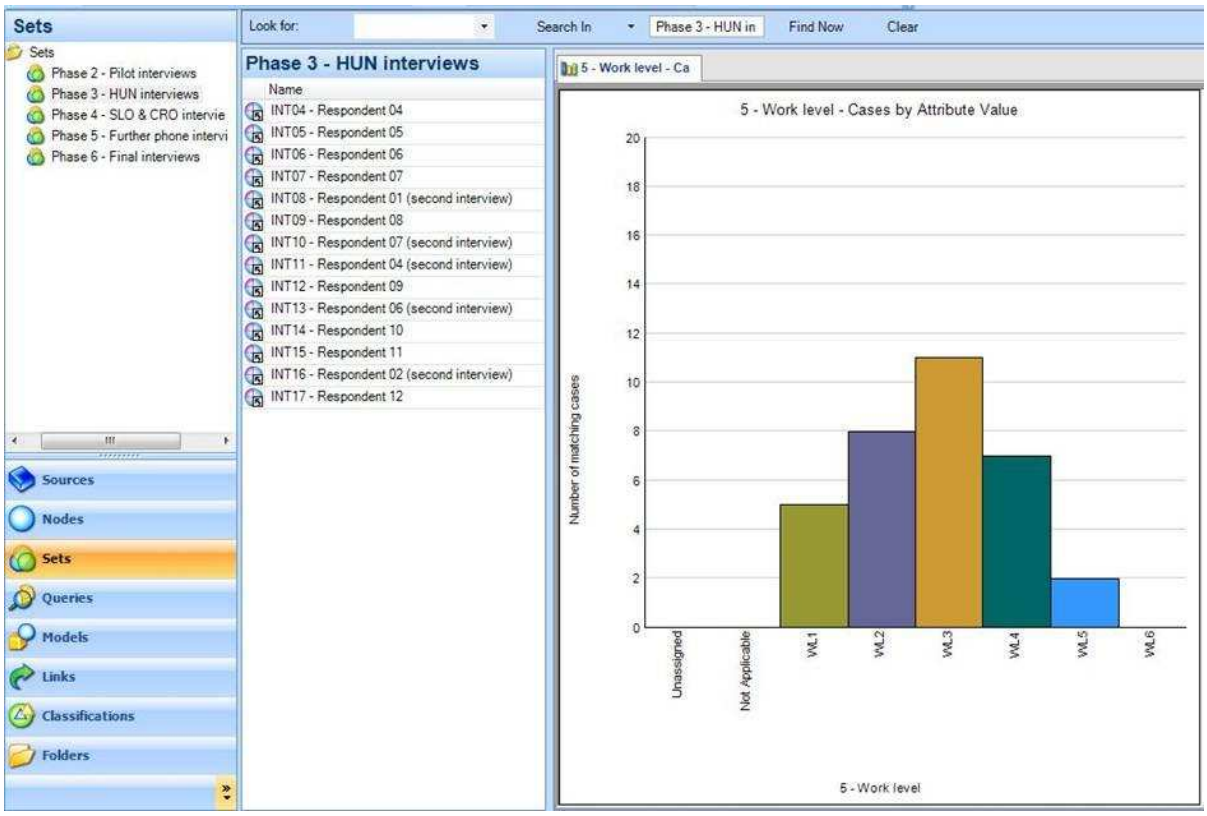


Figure 6: Topic coding schemes (2006, 2007) and analytical coding scheme (2008)