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Autopilot? A reflexive review of the piloting process in qualitative e-research

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Abstract

Purpose: This paper examines an oft-neglected aspect of qualitative research practice – conducting a pilot – using the innovative approach of 'e-research' to generate both practical and methodological insights.

Approach: Using the authors' 'e-research' pilot as a reflexive case study, key methodological issues are critically reviewed. This review is set in a broader context of the qualitative methods literature in which piloting appears largely as an implicit practice. Using a new and emerging approach ('e-research') provides a prompt to review our 'autopilot' tendencies and offers a new lens for analysing research practice.

Findings: We find that despite an initial focus on 'practical' aspects of data collection within our 'e-research', the pilot opened up a range of areas for further consideration. We review research ethics, collaborative research practices and data management issues specifically for e-research but also reflect more broadly on potential implications for piloting within other research designs.

Practical implications: We aim to offer both practical and methodological insights for qualitative researchers, whatever their methodological orientation, so that they might develop approaches for piloting that are appropriate to their own research endeavours. More specifically, we offer tentative guidance to those venturing into the emerging area of 'e-research'.

Value: This paper offers insight into an oft-ignored aspect of qualitative research, whilst also engaging in emerging area of methodological interest.

Key Words: Pilot, E-research, reflexivity, age

1. Introduction

Piloting within qualitative research is rarely discussed outside the pages of methodological text books (Sampson, 2004; Caine *et al.*, 2009) and, at most, may achieve a brief acknowledgement within the methodology section of empirical papers. To all intents and purposes, it can appear that this aspect of research practice is on 'autopilot'. However, as is frequently lamented when qualitative researchers meet face-to-face (via, for example, the excellent British Academy of Management research method group's 'Sharing our struggles' events), embarking on a new research journey can feel like Frodo's epic quest into the heartland of Mordor (Tolkien, 1954) since the paths seem rocky and we are wary that hidden dangers may lurk around the corner.

Based on the challenges faced in our own research endeavour, we aim to share, and critically reflect on, our pilot for an investigation into the language of age at work. The e-research approach adopted involves collecting stories, accounts and discussions about age at work that have been published on the internet in, for example, online news media, blogs and other electronic forms. This is a relatively new area of research practice and therefore our review provides further opportunity for a contribution to an emergent methodological debate.

Our decision to conduct a pilot was initially a practical one, since it was clear that a detailed research design required at least some experimentation to select the appropriate tool set. However, as we planned the pilot, reviewed the literature and discussed our experiences, we found ourselves engaging in broader methodological and technical debates which, together with our subsequent review of the pilot itself, have provided the basis for this paper. In sum, we aim to provide a reflexive commentary whilst also sharing practical insights from our experiences to date.

2. Pilots in qualitative research

Pilot studies are usually positioned as a test of a proposed research design (Yin, 2011). The importance of a pilot (also referred to as an exploratory or preliminary study) within quantitative studies is ingrained within research practice, for example to test sampling procedures or questionnaire design (see, for example, Schaffer and Riordan, 2003 on the importance of piloting questionnaire studies for cross cultural analysis). However, the relevance and appropriateness of pilot studies within qualitative research has been somewhat disputed. Indeed, Holloway (1997, p. 121) suggests that “in qualitative approaches pilot studies are not necessary because the research has the flexibility for the researcher to learn on the job”.

Nevertheless, many qualitative methods books provide some discussion of testing research designs. In this vein, Denzin and Lincoln (1994, p. 201) position pilot studies as an essential aspect of the overall research process since “qualitative research design decisions parallel the warm-up exercise and cool down periods of dance”. Others further highlight the increasing importance of pilot studies as inputs to funding applications (Shekedi, 2005) or as part of the research training process, particularly for post-graduate students (Yin, 2011).

Pilots are defined by Yin (2011, p. 37) as aiming to “help test and refine one or more aspects of a final study – for example, its design, fieldwork procedures, data collection instruments or analysis plans”. More specifically, qualitative researchers highlight the importance of piloting specific aspects of research design, with interview protocols most commonly mentioned (Silverman, 2010). MacQueen and Guest (2008) extend the scope of pilot studies to highlight the importance of testing transcription and analysis processes, particularly during collaborative research projects. Interviews appear to receive particular attention in part because of their popularity as a generic data collection method but also due to the importance of ensuring the interaction with participants is both effective and ethical (Alvesson, 2003; Cassell, 2005).

The notion of piloting is also occasionally discussed with respect to preliminary fieldwork expeditions in ethnographic studies. Caine *et al.* (2009, p. 491) suggest that it is such “formative early stages of research in the field that allow for exploration, reflexivity, creativity, mutual exchange and interaction through the establishment of research relationships”. Here, both negotiating entry and orientation to the research site receive particular attention. Sampson (2004, p. 383) further reflects on the importance of preliminary fieldwork in “considering broader and highly significant issues such as research validity, ethics, representation and researcher health and safety”. Sampson (2004) and Caine *et al.* (2009) provide rare reflective accounts of the piloting process and, while examining very different research contexts, both are situated in an interpretative ethnographic orientation. They highlight that pilots provide researchers “with introductions to unknown worlds” (Sampson 2004, p. 400). In some instances these worlds are unknown because they lack published work and theory to guide research design. One such pioneering exploration has been described as “a pilot study in a field lacking studies” (Ford and Harding, 2008, p. 234). These authors’ ethnographic study involves a mix of reflexivity, pragmatism and methodological innovation as they examine the unknown world of management conferences.

We contend that any qualitative research endeavour might similarly be conceptualised as entering an ‘unknown world’, as our previous reference to Frodo’s epic quest (somewhat frivolously) implies (Tolkien, 1954). Rather than such fantasy enemies, unknowns in the more down to earth realm of qualitative research might include new colleagues, environments, tools (for data collection, management and analysis) and ethical challenges to name but a few. While our Tolkien (1954) references might seem indulgent (and we do not seek to claim the identity of a hero on an epic quest for ourselves), more broadly the journey metaphor is frequently applied to qualitative research with Boyatzis (1998, p. 164), amongst others, describing qualitative research as a “process of discovery”. We therefore suggest it is important to consider that a pilot may offer the opportunity of reflexively mapping (Pritchard, 2011) the unknown prior to reaching a point of no return.

3. The context of ‘e-research’

Our title uses the term ‘e-research’, which is an umbrella term for a vast array of online and internet-based approaches (see Fielding *et al.*, 2008 for a comprehensive review) covering a “wide range of activities” (British Psychological Society, 2007, p. 1) from an equally broad range of research orientations. Developing alongside the proliferation of the internet itself (Evans *et al.*, 2008), researchers from many fields are exploring the potential of e-research which is “not just about the Internet but also on it and through it and constituted within it” (Hine, 2005, p. 242). For example, when using the internet to gather data, a pilot study can be an important part of testing that the research materials work as intended in a live ‘web’ environment, can be readily accessed and, in the case of primary data collection, completed by intended participants (Stanton and Rogelberg, 2001). Both quantitative and qualitative researchers have developed a range of approaches, with ethnography (Hine, 2000; Kozinets, 2010) being one of the most extensively explored from a qualitative perspective within organizational and management studies. In contrast, despite its growing influence (Alvesson and Kärreman, 2011) there appears to be less engagement with the

internet by discourse analysts (Mautner, 2005; Pablo and Hardy, 2009), which is the particular research orientation adopted in our project.

Below we explain our own orientation to e-research; however more broadly it involves gathering data electronically from the internet in one of two ways:

- actively from participants through direct questioning (e.g. via an online interview or questions posed by a researcher to prompt responses from participants within a discussion forum). This is *usually* termed primary data.
- collecting 'published' materials via social media, websites, blogs, chat rooms or other online forums whereby the researcher is using pre-existing (naturally occurring or unsolicited, Evans *et al.*, 2008) data (in our case, predominately text). This is *usually* termed secondary data.

As our research involves only the latter approach this is our focus in this paper (for an extensive debate of primary data collection via online methods see Fielding *et al.*, 2008 and Hesse-Biber, 2011). However, we note that with the emergence of e-research the terms 'primary' and 'secondary' (and the boundaries between them) have become increasingly blurred and in some respects unhelpful as we attempt to 'fit' new types of data and opportunities for data collection within these categories.

Within the emergent e-research literature (Fielding *et al.*, 2008), discussions focus on the practical and ethical and/or legal aspects of data collection. As these all feature as key considerations within our pilot, an overview is provided below.

Practical issues relating to e-research include the array of tools available for data capture as well as subsequent issues of data storage, management and analysis. In this respect there is some overlap

with existing discussions of Computer Aided Qualitative Data Analysis Software or CAQDAS (Sinkovics and Alfoldi, 2012). Caution is urged since while it is relatively easy to collect large quantities of data, these can then take considerable time to manage, review and eventually analyse. Further concerns relate to issues of authenticity (i.e. the 'real' identity of an author or website), broader quality concerns and the practical issues of handling large data sets (Rasmussen, 2008). Our personal engagement with, and reflection on, these issues during our pilot study is examined later.

Ethical issues are a further area of significant debate, with a particular concern that guidelines have failed to keep up with the requirements of e-research approaches (Hine, 2005; Evans *et al.*, 2008). While new guidelines are emerging, such as those developed by the International Association of Internet Researchers (Ess, 2002) and the British Psychological Society (BPS) (2007), how these apply across different fields and locations is still unclear. Further, specific concerns relate to the definition of public and private space, notions of participation, informed consent and anonymity. In much internet-based research, particularly where researchers are collecting secondary data, there is no direct interaction between the researcher and those we might otherwise label as 'participants' (Ess, 2009). Given the layers of technological mediation between the researcher and an author of a particular text, there may be no direct means of identification or communication with those individuals (British Psychological Society, 2007). Therefore the possibility of obtaining informed consent is often severely restricted. The issue of ownership also comes into play here, such that the researcher might consider information posted on the internet as published and publically available, and therefore suitable for research purposes in the same way as print newspaper articles. Of course the notion of what is 'public' on the internet is itself complex (British Psychological Society, 2007). To date, researchers have drawn a line between those domains which are freely accessible and those which require an individual to become a member. However, the emergence of new tools and technologies, such as 'twitter', is challenging even these basic distinctions (Herminda, 2010).

Moreover, as social media become more complex and interrelated, so text may move freely between public and private domains, with the origin often difficult to discern (Hoser and Nitschke, 2010). The BPS (2007, p.3) highlight that “not only is internet communication often effectively public through greater visibility, traceability and permanence, but research conducted online is more publicly accessible and leaves permanent records that in a face-to-face situation would be transitory”. This reminds us that we need to be aware of managing our own digital footprints during the process of research.

As researchers we may have less control over the production and construction of web-based data than in other qualitative methods such as interviews. This raises issues that a pilot can usefully address. For example the stability or otherwise of particular websites (Pablo and Hardy, 2009) may be relevant to their suitability for analysis; while the transitory nature of some web sources, (e.g. comments on online newspaper articles are often removed after a period of time) raise practical issues about the frequency and timing of data capture.

Finally, the issue of anonymity is a complex two-way conundrum. As already highlighted, online identities may be altered and therefore the researcher may be unclear what details are to be protected. If publishing quotes is part of the research output, a particular dilemma is how to preserve the material to evidence analysis whilst also preventing (either an accurate or inaccurate) ‘re-tracing’ (for example via internet searches) to the source, since this could potentially reveal aspects we had attempted to anonymize. The BPS (2007, p. 3) suggest that consideration can be given to whether the research activity may or may not pose an “additional threat to privacy over and above those that already exist” in respect of the degree to which the material may already be widely available. Many chapters (e.g. Ess, 2009) have already been dedicated to these debates and therefore, rather than progressing an abstract discussion, we focus below more specifically on the ethical challenges of our pilot.

The last generic issue often debated with respect to secondary data is the legal requirement related to collection, usage and storage of data; an issue which is closely related to the ethical debates highlighted above. As the name implies, the web is worldwide therefore researchers have to be aware of a range of issues concerning copyright and data protection regulations (Charlesworth, 2008).

Alongside the discussion of using the internet as a research tool, there is further debate regarding its role in other aspects of research such as dissemination and collaboration (Thelwall, 2002). The BPS guidelines (2007) remind researchers to pay attention to their own potential exposure via conducting and reporting internet research.

Despite the growing interest in e-research, it is important to bear in mind that it has not been universally welcomed. A key figure in the field, Hine (2005, p. 244), sounds a note of caution suggesting that “it is possible to see the decision to define ‘Internet research’ as a field as a rhetorical choice, defined to evoke the qualities that the Internet held as a cultural artefact as the cutting edge technology of the moment”. Indeed, the labelling of research approaches is worthy of further consideration more broadly, since all may offer rhetorical value to the authors (Pritchard, 2012). Further, Travers (2009, p. 172) comments “it is hard to see how new technologies add much that is really new to qualitative research ... more worryingly they flatter us into thinking that, because the methods are new or innovative, no further thought about methodological issues or how one analyses the data is required”. Certainly, as highlighted previously, there is much debate about these issues within the literature. Indeed, we are to some extent suggesting an alternative position based on our own experience, that engaging with a new research approach has forced us to reconsider our approach to piloting and therefore provided opportunity for increased reflexivity and critical insight about our research practices more broadly. Our contention is thus that e-research is

neither inherently good nor bad. However we have found that being on 'autopilot' was insufficient to address the issues we encountered whereas approaching it as a new research practice has been a reflexively useful experience.

Despite its relative infancy, e-research has already provoked a great detail of debate, yet piloting remains an area that has not been specifically examined. Since internet research opens up many 'unknown worlds', we seek to reflexively explore piloting in this context as a means of contributing to this important area of methodological debate.

4. Our 'unknown world'

From a topic perspective the focus of our study is the language of age at work. In contrast to existing research which tends to focus on particular chronological age-based categories (e.g. older workers) we aim to consider the overall construction of age discourses; unpacking particular conceptions (such as generations) and examining the relationships between them. For example, generational tensions emerge as 'young' and 'old' are constructed as mutually exclusive in the labour market yet there are similarities in the means (including regulatory) and measures (including chronological age) of exclusion. Further, there is increasing dissatisfaction with conceptualisations of age in organization studies, particularly with those based on chronology (Schalk *et al.*, 2010).

It has been suggested that many aspects of work and working life are in part constructed through and by "media spectacle" (Tan, 2011, p. 169). From this perspective it is both possible and desirable to examine accounts of age at work without locating the research within a 'traditional' organizational context. We aim to identify the voices within current and developing debates about age at work. Through this we hope to develop an understanding of the ways in which emerging media, such as those that are internet based, are implicated in the processes of discursive construction. Both researchers involved in the project had already been reviewing internet based

material with a view to informing existing research projects, and the opportunity to develop and expand our skills in the area of e-research was a key motivator for this project. Reflecting on our experiences on other qualitative research projects and on the e-research literature more broadly, a pilot seemed to be an essential step in developing our research design.

5. Our pilot

Within our broader year-long research project, our pilot took place over a month, though some weeks of discussion both preceded and followed this period. As outlined previously, our aim in this paper is to generate both practical and methodological insights through a reflexive review of the pilot we conducted for the above research project. We do this via examining four specific aspects of our experience which are particularly relevant to the context of this project but which also offer potential to inform understandings of piloting more broadly:

5.1 Trialling data collection methods.

5.2 Examining ethical issues.

5.3 Exploring collaborative research practices.

5.4 Trialling data management methods.

Some multi-functional items appear under more than one of these headings.

5.1 Trialling data collection methods

Our aim during the pilot was to access a range of internet sources, voices and conversations related to age at work. A review of available tools and input from colleagues highlighted that 'Nexis' and 'Google Alerts' were well suited to our aim of collecting data from a wide range of internet sources. These are also 'free' tools (though Nexis requires an institutional licence). A further advantage is that they utilise different search protocols (Nexis draws on UK news media whereas Google alerts cover worldwide news, web and blog content) thus we can approach potential data from two

different angles. We found some limitations to the free Google alerts services (e.g. lack of advanced search tools) but the ability to differentiate news, web and blog sources was seen to outweigh these disadvantages. With hindsight it may have been useful to test or trial additional search tools within the pilot, however we found few reviews or comparisons which would have enabled us to identify and assess alternatives within an appropriate time frame.

Having selected the tools, our next step was to determine appropriate search terms. These were initially identified from a review of the literature and through looking at relevant websites discussing age at work issues. These included professional, campaign and government sites identified through our own scans of the internet as we developed our research ideas. The two authors compiled separate lists of potential search terms which were then compared and combined. We posted our assessments of the search terms on our blog and invited other researchers using similar approaches to contact us with their views (though no feedback was received).

An initial test of our proposed search terms (via Google search) was then conducted so that the number, type and spread of 'hits' likely to be produced could be reviewed. This initial test prompted discussions on how to achieve a workable balance between generating a large number of hits and keeping a focus on the topic, an issue which has continued to be of critical relevance as the project progressed as the task of reviewing alerts is time consuming. However, this process also provided a basis for reflecting on our understandings and expectations of the search process and importantly prompted debate about how we would determine the relevance of the 'hits' returned. Our test runs provided 'real' data that we could discuss and allowed us to work through further conceptual debates within the context of the pilot, though perhaps in other research approaches similar debates could also have been prompted by discussion of key papers.

During the pilot, we focused on English language sources and search terms, accepting that this results in only partial access to the full range of material across the World Wide Web. However, given our own linguistic ability, the timeframes and funding available for the research we decided the complexity of running multi-lingual searches and the subsequent translation challenges were beyond our capabilities. It is however interesting to note that within the Google search tool for example, the language defaults to that of the location set up within the account and separate searches would have been necessary for each translation of the selected search terms, creating an almost unmanageable number of alerts on a daily basis. Other tools may be more suited to multi-lingual approaches. Therefore while the challenges of multi-lingual e-research are beyond the scope of this paper, this is undoubtedly an area ripe for further exploration.

After initial tests, our search terms ('older worker', 'age regulation', 'age discrimination', 'age diversity' 'youth employment', 'generation and work') were refined and re-tested before programming both Nexis and Google Alerts to return daily searches which were monitored during the four weeks of the pilot. We found this provided a reasonable time frame to experience peaks and troughs of different topics and to see whether the terms chosen were robust enough to generate data on an ongoing basis. Indeed, the timing of the data collection process was an interesting factor which we had not considered. Following up 'hits' on the day they were identified sometimes meant that comments and follow-up stories had not been linked to the original text and the data was therefore more basic. On the other hand, if a 'hit' was left for too long, the URL may have been changed or text removed. On average we found that following up the hits between 3-10 days after they had been returned by the search tools seemed to be an appropriate time frame.

As we developed the search process we also decided it would be beneficial to specifically 'follow' particular 'voices' (usually via websites but later via 'twitter') in addition to those previously used as a basis for generating the search terms. This was added to the pilot in two ways, firstly via

registering for newsletters and press releases, where this option was provided and secondly via utilising tracking software to provide alerts of website updates. An ongoing review of 'voices' was carried out during the pilot and resulting in a total of 23 being identified. We also created a process for adding to this list during the main period of data collection.

Based on discussions with other researchers, a further approach to data collection was added as the pilot got underway. This involved using 'twilerts' to highlight relevant 'tweets' from the social media tool 'twitter'. After initial testing a slightly refined set of search terms was used from those identified above and the names of additional key voices (professional, campaign and government) were added since many of these use twitter accounts as a means of publicity.

Our pilot therefore involved a degree of experimenting with the range of tools available and seeking guidance from others who had some experience of these, albeit in other research fields. We adopted an evolutionary approach, adapting and adding to the scope throughout the piloting period until we had what we felt was a reasonable and stable basis for the 'main' period of data collection. Initially changes and experiments made a significant impact on the type and volumes of returns, but as the pilot progressed tweaks resulted in fewer material changes to the data produced, such that we felt ready to embark on data collection 'proper'.

We also consulted others throughout the pilot. For example, having accidentally downloaded spyware we sought advice regarding the risks that were posed via data capture from the web (with abbreviated URLs on 'twitter' being particularly difficult to assess for risk) and increased the security of our computers. We also set up a web-based project-specific email account which both authors could access. This provided a central repository for alerts and other newsletters and press releases that we subscribed to. This further protected our own personal email addresses from any spam or associated security issues. This project email address was also used to store our own email

exchanges, an aspect of piloting examined in more detail below within our discussion of collaborative working.

Within the e-research literature we found little guidance on selecting and testing search terms for this type of research project, therefore this formed a key aspect of the pilot. However more than practical issues, the process also enabled us to reflect on our individual and shared assumptions about the scope of our research questions, develop an understanding of our potential data set and the different ways of accessing this. Further it enabled us to identify a broad range of organizations and individuals actively engaging in debates about age at work, which prompted further discussion about, for example, the role of different campaign groups. This illustrates the benefit of a pilot in allowing the development of substantive issues with respect to the aims of the broader research project.

Beyond our specific research we would suggest that using online research methods to generate information about those actively engaging in the research topic outside academia may be potentially useful whatever the ultimate research approach. Searching internet material to develop an understanding of how various terms are used and reported may also be useful preparation for the design of other data collection tools such as interview protocols. Moreover, in a similar way to using 'table of content alerts' to stay in touch with recent publications, internet alerts can provide a relatively easy way to keep updated with discussions about a topic in a broader context, whether the information gathered is regarded as data or not.

5.2 Examining ethical issues

As mentioned above, there is much debate regarding ethical frameworks for e-research, with different disciplinary and national flavours available for consultation. Our first step was therefore to review this literature and determine which issues we felt were most relevant to the pilot and wider

research project. As researchers we were also primarily guided by the frameworks that were relevant to our particular academic discipline and the country in which the research was being carried out.

Based on this review we developed an initial ethical statement for institutional review. This was inevitably broad as prior to the pilot it was unclear exactly what forms or types of data would be returned via the different search tools being tested. This prompted an early discussion within our institution of the particular issues associated with our research approach, which was relatively new to all concerned. Through our discussions it became increasingly clear that it is extremely difficult to predict in advance the forms of data that will be generated through e-research. This in turn highlighted the need to develop flexible guidelines that would enable us to respond to the data generated over the course of the main project. A key lesson from the pilot was therefore the need to build in further reviews regarding research ethics at each stage of the project. We set up a broad framework to guide our ethical decision-making including:

- Deciding to exclude any data that required us to join, or register as user, to access the sources generated via alerts. Thus we maintained a focus on what are generally regarded as 'public' data sources. However, we plan to review the sources again prior to analysis to allow a more detailed ethical review of the data collected.
- Maintaining a broad categorisation of key voices and sites (e.g. as news, HR professional groups, consultancy organizations, campaign groups or government agencies) rather than anticipating specific identification. However, we agreed that this may need to be reviewed in light of the significance of the identity of some organizations, for example, the names of some campaign groups may be analytically significant.
- Committing to anonymisation of data reported in any public documentation or forum (including company or personal information)

- Putting on hold a decision regarding potential 'cloaking' (subtly altering) data until analysis. 'Cloaking' is potentially difficult to apply to qualitative research projects where changing the text may alter its analytic interpretation (British Psychological Society, 2007).

Following the pilot we held further meetings with those in our institution responsible for giving ethical approval for research projects in order to review the lessons learned and our ongoing approach. Further meetings will take place after the data collection is completed and the material collected has been reviewed. Our learning from this process reinforces our reading of the literature, most significantly that generic ethical guidelines need specific interpretation with respect to the actual data generated via internet searches and this is an ongoing process rather than a one-off box to tick at the outset of the project. We further found that involving those who are responsible for ethics within the institution is essential to agree how to apply the various principles (Ess, 2009) for internet research. We fully acknowledge that we have been very fortunate to have the full support of those involved at our institution throughout the project. We adopted an open approach and maintained communication with the key people throughout. A key benefit of the pilot was that it provided a tangible basis (and examples of data) for discussion. Further, through papers such as this, we hope to complete the loop and feedback our experiences to contribute to the ongoing debate and aid the development of ethical practices.

5.3 Exploring collaborative research practices

In many respects one of the most useful aspects of the pilot has been as a prompt to discuss the practicalities of collaborative e-research. Along with piloting, research collaboration is further underexplored in the methodological literature (Paulus *et al.*, 2010). In this particular project, the collaboration was planned and arose from mutual interest in the research topics. The two authors have known each other for some time, at one point both being PhD students in the same department. In this instance, the collaboration was formalised in the contracting of the second

author as a researcher in respect to a research grant obtained by the first author, though this is not necessarily reflected in formalised roles or working relationships. Both of us had used some aspects of e-research previously, though in more limited ways than attempted in this project. The pilot seemed to offer us an opportunity to try out ways of working and in particular we needed very quickly to work through how we would coordinate the pilot activities.

In light of the focus on e-research, we decided to utilise several internet tools to support collaboration:

- A project based shared email, as mentioned above, to which all alerts could be directed; we also used this as a standard 'cc' on all emails concerning the research so that a single central repository of all communication was maintained.
- A web based bibliographic database was set up for the project to which we could both add academic papers and other written materials useful for the research and add comments on these to each other. This has the means to provide a fully collaborative reference management system.
- A private blog was established as a means of supporting asynchronous 'chat' between the two researchers. This then contains a record of most conversations and a shared history of decision making and discussions about key issues.
- A public blog so that we could actively link to others via the web and provide a live account of our research as it happened.

Conversations about these tools provided the starting point for broader discussions about personal styles of working and working together. Some discussions have taken place electronically, but there have also been regular phone calls, meetings and the occasional lunch. Our e-research approach has not led to a completely 'virtual' collaboration; indeed the mode of working seems very similar to other more typical collaborations in which we have been involved in the past.

However, critically, discussions about, during and after the pilot have enabled us to develop a clearer and more robust plan for the remaining months of the research project and in particular to develop an idea of how we might respond to the issues we will face as the quantity of data generated increases. As the project is still ongoing, it is perhaps too early for us to comment more broadly on our experiences of collaborative working, however the pilot has provided a specific opportunity to discuss and plan how this will develop during the remainder of the project. Further it does seem possible that e-research could potentially open up new avenues for research collaboration (particularly when researchers are not co-located) that have still to be fully explored.

5.4 Trialling data management methods

The challenge of large volumes of data that often need to be transformed before analysis is common across many different types of qualitative research approaches (Richards, 2009). E-research is similar in this regard, though the steps and transformations are somewhat different from, for example, the more common recorded semi-structured interview. Despite the growing volume of literature on e-research, there is very little written about the practical steps of handling data. Indeed, we did not actually discuss how we were going to manage the data until we had launched the pilot alerts, largely as we were unaware of how many 'hits' would be returned on a daily basis. Our first task was then to review the first week of the pilot to determine how we might process the data. Initially, Nexis searches returned an average of two hits per day and the relevance of hits approached 100%. Google alerts returned an average of 19 hits per day with approximately 25% being of good relevance to our research. Twilerts returned as average of 24 hits (tweets) per day with approximately 60% being of relevance. As highlighted above, relevance was a rather nebulous concept at the outset of the pilot but during discussions we refined our understandings. For example we decided:

- That sources should include a discussion of employment or work in at least some aspect of the text (e.g. broader discussions of health and old age are excluded where these do not refer to capability to work, discussions of young people's education and training were excluded where these do not make any reference to employment).
- To exclude repeat press releases or legal case announcements where these were not accompanied by any extension or discussion specific to the source.
- To exclude announcements of legal case hearings and or outcomes where these are purely notifications without discussion (e.g. dates of hearings etc).
- To download accompanying pictures, podcasts and videos for completeness (where this was possible, otherwise a separate list of links was maintained), though it was not always practical to listen to all material at the time of downloading.

This understanding was developed during the pilot as we reviewed the 'hits' returned and in conjunction with our developing understanding of ethical issues, as these are interrelated aspects of the pilot. It is fair to say that we initially underestimated the amount of time the actual collection and management of data would take. Our alerts and searches returned links to be followed, the material read and then either links or text collected. We developed a proforma to guide the download of text from the hits returned, ensuring that we captured information such as the URL reference and date downloaded. We knew from our own previous research using web based material that if we were to use Computer Aided Qualitative Data Analysis Software (CAQDAS) at a later stage in the project we would need to capture the data in an electronic form compatible with what the selected CAQDAS software can accommodate.

However, this process was not straightforward. In an email to the second author, the first author reported on the first attempt: *"Review of day one alerts = two and half hours, no analysis, agh!"*

The first versions of the proformas were too complex, with too many fixed fields to fill in for each item. We shared and reviewed this first day of downloads and then streamlined the proforma to focus on essential information only resulting in a slightly calmer email exchange a few days later: *“This one only took thirty minutes, bit of a relief”*. We did discuss attempting to produce a protocol so that this process could be potentially outsourced. However during the pilot it became clear that it was very difficult to predict the nature of the hits returned and further that our direct engagement with the data at this stage enabled us to develop ideas to explore conceptually alongside the data collection processes. Through these regular discussions regarding each days ‘hits’ during the pilot we agreed how to deal with common issues such as subscription sites, broken links, and later, security threats. However, with hindsight including a tag or comment on the material as it was collected would have been useful and helped us to return to particular items of interest more easily.

A further debate at this stage was how best to capture ‘comments’ posted in response to particular texts (such as news articles or blog posts where comments are invited). Again with a view to the ethical considerations, we decided to capture ‘relevant’ comments without identifying avatars or tags where possible. While these might appear to be largely a discussion of practical issues, we have found that it is through such discussions that our understandings of this research approach and our own particular project have developed.

6. Discussion and conclusion

Piloting within qualitative research projects often remains a hidden practice. Through a review of our own particular approach we aim to have brought more clearly into view the practical and other benefits that might be generated through engaging in a pilot. We have reviewed our approach to piloting in four areas (data collection, research ethics, collaborative research practices and data management issues) since these were of particular relevance to our e-research approach, but have also highlighted how these processes might apply more broadly. In doing so this paper serves another, somewhat selfish, purpose as it acts as an evaluation of our own pilot activity.

However, this is not to say pilots are problem free. As researchers tend to be finding their feet during the process, a pilot might raise issues that researchers feel ill equipped to deal with; issues which they may have been able to address later on in the project, after more experience. This could result in valuable research being delayed or issues being ignored if they are not manageable within the pilot timeframes. Such concerns highlight the need for more debate and discussion about the piloting process so that realistic expectations can be set. Moreover this is important so that researchers can share and develop effective piloting approaches within the complex context of qualitative research in organizational and management studies.

Our aim in the pilot was not to achieve a 'perfect' research design but rather to determine a workable way forward for the rest of the research project. However the process has worked to draw our attention towards some of the trade-offs that we may need to take (for example between breadth and depth) as the research progresses. From this, we are able to put in place regular 'sense checks' and points at which we can discuss progress. Amongst the outcomes of our pilot were therefore an early indication of problems that might arise, recognition that we may not necessarily be able to resolve them all now, and the decision to put in place the means to ensure that these will be re-considered and addressed as required.

Our e-research approach provided a prompt for our pilot but our own past research practice has not always involved such planned activities; we ourselves have been guilty of operating on 'autopilot'. In some respects, we have found that engaging with new methodological challenges has acted to 'reinvigorate' us as qualitative researchers, prompting broader debates and explorations. In this respect, our experiences have convinced us that discussing the options for pilot activity whatever the broader scope of the research project provides an important opportunity for what we might term 'forward reflexivity'. Reflexivity is defined by Hardy *et al.*

(2001, p554) as an “awareness of the situatedness of scientific knowledge and an understanding of the research and research community from which the knowledge has appeared”. Emerging as a much debated concept within qualitative research (Tomkins and Eatough, 2010), there are concerns that it is too easy to add reflexive as a ‘tag’ to denote some claim to authenticity, quality and ethical high-ground (Johnson and Duberley, 2003; Knights, 2006). Typically reflexivity is viewed as a particular style of engagement with research activity as it happens but also as a retrospective review. However, in the context of our discussions, we suggest that the piloting process provides an opportunity for researchers to engage in forward thinking to consider and explore the broader research project in advance, thus providing the potential to be reflexive about how the research will develop in the future.

In contrast, our discussions regarding research ethics have highlighted the challenges for forward planning within an e-research framework. Rather than settling the ethical approach from the outset, we found that it is difficult to anticipate the nature of the data collected and therefore a more flexible approach in which ethical issues are addressed throughout the project seems more appropriate. Thus the relationships between the temporal phases of e-research have been further understood through our piloting activity.

Our broad aim has been to focus on an oft-neglected aspect of qualitative research practice – conducting a pilot – and uses the methodologically innovative approach of ‘e-research’ to generate both practical and methodological insights. We hope that other researchers employing other kinds of designs (using different types of methods) will continue the conversation about piloting within qualitative research, adding their experiences and developing the ideas suggested here.

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