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Interviews via VoIP: Benefits and Disadvantages within a PhD study of SMEs

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Abstract

The benefits and disadvantages of Voice over Internet Protocol (VoIP) are explored as part of a PhD study to conduct qualitative interviews to discuss risk management within records management. This was used in conjunction with an internet-based electronic whiteboard system to provide online collaboration between participant and researcher.

This work describes remote interviews that were held separately with two participants from one small to medium enterprise (SME). An analysis of factors that might affect researcher choice of interview format is given, and the differences noted between other formats of 'remote' interview. Suggestions are made as to how other forms of e-communication may be used for interviews.

1 Introduction

This article examines the use of VoIP to conduct interviews by giving a descriptive account of the researcher's experience in conducting two VoIP interviews. The addition and use of an electronic whiteboard as an aid to remote interviewing is described. The subject of remote interviewing is explored more thoroughly with reference to current literature, including relevant studies using telephone interviews, videoconferencing, email and Instant Messaging. From this, parallels are drawn between other methods of remote interviewing. Some drivers for VoIP use are noted, and a review of the aspects of VoIP use is followed by some practical points to consider whilst using this medium.

The use of VoIP to conduct interviews is a relatively recent phenomenon in qualitative research. Though other technologies have been used to arrange 'remote' (Stevens, 2008) or 'distributed' meetings (Yankelovitch *et al*., 2004, 419), there have always been technological concerns as to the feasibility, cost and

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value of the interview from both the perspective of the researcher and that of the participant. There appears to be a "gold standard of face-to-face interviewing" (McCoyde and Kerson, 2006, 390) with the view that other methods are a compromise, rather than valid techniques in themselves. It is hoped that the evaluation of some alternatives to the 'gold standard', each with their own attractions, will prove of use to researchers who need to access specific participant groups remotely.

This paper examines the benefits and disadvantages found when the method of interviewing two participants over VoIP was used to compensate for difficulties in arranging face-to-face meetings with participants in a rural SME.

The company participating was an SME in the north-east of England. It had offered to participate in a PhD study examining risk management in e-records management. This involved holding a batch of interviews with selected members of staff and managers, recording the interviews in order to transcribe them and then using the transcript to form the basis of a corpus for analysis. This corpus was formed from a collection of interview transcripts. Thematic coding of this corpus and generation of rich pictures was used to triangulate evidence to form a greater holistic understanding of the SME's attitudes and drivers towards risk management in electronic records management.

The use of VoIP interviews was prompted by a difficulty in reaching the site and in contacting individual employees. The SME was housed in an industrial estate unit outside a town not accessible via rail. One of the employees participating was a teleworker who worked on-site only once a week. As the SME was used to using a VoIP application as a medium for communication between its workers, there was a very positive response from the business owner to using this method for interviews. It was also felt by the researcher that using VoIP would be less intrusive to the SME than a physical visit.

2 PhD study interviews – an account of two experiences

Interviews were held with two participants from the company. Interviews had been held with these participants beforehand. Both had been contacted by the manager of the company and the researcher to ascertain if they would be available to interview through a VoIP application called Skype (2009). The participants required access to illustrations rendered for the interview, and so an interactive whiteboard was chosen to work alongside the VoIP application.

Participant 1 was a teleworker in the company and opted to hold the interview on a day convenient for her when she was not in the office, but at home. The call was made using VoIP audio, rather than a video call. Skype's Instant Messaging (IM) feature was used to send over the link to the digital whiteboard. The participant was quite relaxed, and seemed more open to answering questions posed to her than in a previous interview session held in person, within the company.

Two-thirds of the way into the interview, the WiFi connection to the researcher's laptop lost connectivity and the Skype call was dropped. After a brief time was taken to re-establish the connection, the researcher connected via VoIP again to the participant, explained what had happened, and resumed the interview with

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minimal trouble. The interview lasted roughly 70 minutes, yielding an hour of relevant material from the interview to the PhD study.

Participant 2 was a manager who worked full-time at the site. He was able to have his interview at the office, and confirmed his availability via email. This call was made via Skype VoIP audio, and again the IM feature was used to transmit a link to the electronic whiteboard program used successfully in Participant 1's interview. His interview lasted roughly 150 minutes, and was interrupted at roughly 55 minutes into the call, by an antivirus program update. The researcher called the participant back using VoIP, and resumed the interview. This longer than usual interview (two hours rather than one) gave a huge opportunity for material-gathering, and included a protracted use of the whiteboard, with the participant designing and creating a top-level diagram of his own design upon it. The participant's engagement with the interview was impressive, as the usual time for interviews with this company varied between 30 – 70 minutes. This long interaction with the remote interview can be mainly explained by the fact that the participant took great pains to illustrate a diagram for the researcher using the electronic whiteboard, which gave the participant a chance to reflect on his own ideas and to demonstrate them to the researcher.

3 Recording the VoIP interview

The recording set-up for the call was an Olympus WS 21OS digital recorder attached to an external microphone, and rested near the speakers of the computer. As there had been no collection of visual data beforehand in the study, there were no requirements to record video footage that may have been available via Skype.

However, copies of the digital whiteboard were taken in the form of screen captures after significant changes and each complete element added by the participant, such as a whole text box or shape. This was recorded in a Microsoft Word document. This helped to preserve a record of the digital whiteboard session held with participants 1 and 2, and showed the participant and researcher interaction clearly. Whilst the researcher could place markings on the whiteboard to indicate specific parts of the diagrams put up onto it, the participants were also able to mark up the diagram and contribute with text and image.

Evaluating other possibilities, the audio-recording program 'Audacity' (Mazzoni, 2008) could also have been used to record sound directly into the computer being used to host the VoIP session, but the researcher preferred to use an external digital recorder, as Audacity files can be quite large, before conversion to .MP3 or .WMA format, and may prove taxing to a slower computer which also runs other processes at the same time. However, when using a computer where file storage space is not an issue, Audacity could be used to record directly to the computer.

4 Use of interactive whiteboard technology in supplementing interviews

Twiddla (2008), an online interactive whiteboard facility, was used to allow collaboration between the participant and the researcher. Twiddla was chosen for its ease of use, simple interface for tools, and its web-based availability. Twiddla was also chosen for the fact that there is no requirement to download software to enter into a shared whiteboard environment. This may be a specific problem to

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those who are being interviewed within work environments or who are on a network without administrator rights.

Images can be imported onto the online space, and seen by participants who are sent the URL. Uploaded images could be seen by both the researcher and the participant, could be annotated with text and drawn upon by both researcher and participant in two different colours.

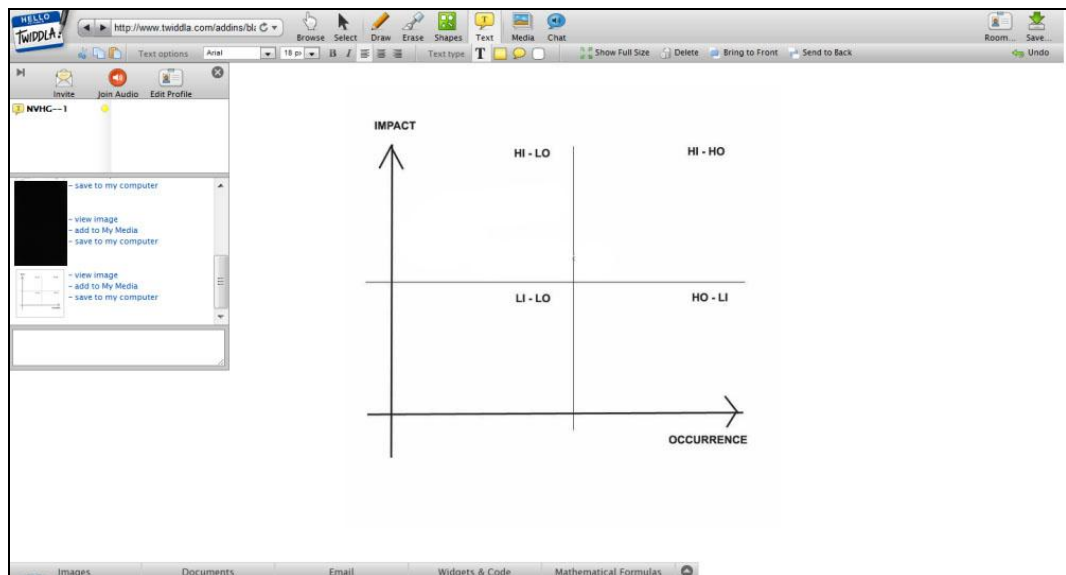An example of an image as seen in Twiddla is shown in Figure 1.

Figure 1: Twiddla: example of use.

Another aspect of the use of the interactive whiteboard is that the participants using it within these sessions seemed to be more eager to annotate information, and describe through diagrams their perceptions of information and records management structure. Though there is not enough evidence to be conclusive about this aspect, the willingness to participate indicated that the online whiteboard's novelty may increase participant annotation of diagrams. In terms of the use of this data, compliance with Northumbria University's regulations was in force (Northumbria University, 2008).

5 Interview methods

There has been much technological progress in terms of the possibilities for carrying out a 'remote' interview. VoIP is a recent addition to the tools that researchers and educators can use in order to interview or broadcast over distances without a physical presence, as used successfully by Lotter (2009) and Miltenoff, Flanders *et al*. (2008).

Using a VoIP program, researchers can make a direct PC-to-PC call, or call out to a landline anywhere in the world. Charges and costings for VoIP programs may vary, but the general options place an emphasis on free PC-to-PC calls, with telephony to a landline for a small charge (Branzburg, 2007; Lotter, 2009).

Table 1 describes both advantages and disadvantages for each of the methods.

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Technology	Advantages	Disadvantages
VoIP	*Costs* – Free using PC-to-PC calls, calls to landlines may be made at a small cost *Human element* – Participants and viewer able to see each other and read face and body language in video calls *Recordable* – Audio recordings can be made of the interview session	*Technology requirements* – Internet access needed by the calling party (VoIP to landline) and for both parties when calling PC-to-PC. VoIP-enabled program must be installed at both ends for PC calls, as well as microphones and cameras for respective audio and video inputs *Human element* –Participants may feel embarrassed or nervous to be on camera
Videoconferencing	*Human element* – Participants and viewer able to see each other and read face and body language *Recordable* – Audio recordings can be made of the interview session	*Technology requirements* – Videoconferencing equipment needed by both parties *Costs* – Purchase and maintenance of videoconferencing equipment *Human element* –Participants may feel embarrassed or nervous to be on camera
Telephone Interview	*Costs* – Cost of call lower than cost of travel to participant location *Recordable* – Audio recordings can be made of the interview session	*Human element* –Participants and researchers may feel awkward in dealing without body language or nonverbal cues in interview *Technology requirements* – Telephone access needed for both parties. Reference materials need to be shared physically with the participant beforehand rather than in session

Table 1: Table of advantages and disadvantages in three forms of remote interview technology methods – VoIP, videoconferencing and telephone interviews.

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Other tools have included telephone interview (Siemiatycki, 1979; Sturges and Hanrahan, 2004; Worth and Tierney, 1993) videoconferencing (Straus, Miles and Levesque, 2001; Webster, 1998), and email interviews (Bampton and Cowton, 2002; McCoyde and Kerson, 2006). Described here, in regards to the literature, are their benefits and disadvantages for remote interviewing.

Videoconferencing, a technology that became popular in the early to mid-1990s, is very dependent on the use of specific hardware with both the researcher and the participant/s. Sellen noted that "the explicit goal of videoconferencing is often stated as one of simulating face-to-face meetings" (Sellen, 1995, 403). Webster's (1998) identification of a psychological impact of human interaction in terms of the uptake of videoconferencing is relevant to any communication technology using video; though the technology may have changed, the behaviour and attitudes of video call users is still an important consideration (Stevens, 2008; Straus *et al.*, 2001) for any researcher. Reluctance to participate with video may be because of a concern about personal privacy (Webster, 1998, 272) or shyness.

Telephone interviews have had the longer history in terms of remote interviewing. Worth and Tierney (1993, 1077) note that "Previous studies concerned with methodological issues in public survey research have attempted to assess whether telephone interviews yield data of comparable quality to other methods, with inconclusive results". Sturges and Hanrahan (2004, 108) have indicated that this method has also not been popular for qualitative research: "The use of telephone interviews in qualitative research is uncommon, due largely to concern about whether telephone interviews are well suited to the task." However, in regards to this perception, they found that the mode of interview did not 'influence the data to any significant degree' (Sturges and Hanrahan, 2004, 113). Siemiatycki (1979) also found that in comparison with a mailed survey's returns of 76 – 83%, the telephone interview achieved a high (87%) response rate.

6 Parallels with videoconferencing

The use of the VoIP form of interviewing has certain specific parallels with videoconferencing, but also marked differences in the terms of the success and widespread rollout of both equipment and software. Webster (1998) has noted that the initial poor take-up of videoconferencing in one case study business setting was due to a complex mix of factors which involved the use of the videoconferencing technology as a form of 'check' on whether the employee was present at his or her desk. The employees did not appreciate this, and so the videophones went unused. Other factors involved a wish for human interaction other than via videophone.

It is evident, then, that the key aspects of the use of videoconferencing technology involve a psychological angle between the user groups. This is key to note when considering the potential value of the video call aspects of Skype's VoIP service.

Amongst the key factors that Webster notes of the use of such technology are user needs, training and documentation, system reliability, and ease of connection (Webster 1998, 258–265). It is clear that users had to be supported in business use of videoconferencing, and this should be noted in the use of video calls via VoIP.

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7 Parallels with telephone interviews

The telephone interview is the most used of the techniques of remote interviewing. Siemiatycki (1979) noted that the overall high cost of research was an important limiting factor. Based on the comparisons of a mail and telephone survey in comparison with the 'conventional' form of interview, his work can be seen as a clear example of a researcher trying to use current technology to expand research techniques. Despite noting earlier in their work the general negative academic responses to the telephone interview as a method, Sturges and Hanrahan (2004) used this format as a contingency method and found that it worked positively in response to difficulties in reaching a target participant group of prison visitors and correctional officers (Sturges and Hanrahan 2004, 111).

Worth and Tierney (1993) note the saving of time and travel expenses when using telephone interviews as an alternative to face-to-face interviewing. However, their harrowing description of the difficulties faced by elderly participants of a research survey designed to ask about post-surgical experience is vital for the comprehension of the context of suitable use of technology for both participants and the research situation. Regardless of the possible simple parallels between an audio call using VoIP technology and a telephone call, there is a strategic problem regarding VoIP that also applies to the telephone interview. Technology has changed, and whilst the factors of technological availability may have improved, the challenges of technological literacy are still extant.

8 Parallels with email

As an email is an asynchronous form of communication, it cannot lend itself to the emotional interpretations of a 'live' interview. It is a medium in which the first question may determine the destination of all the others. However, McCoyde and Kerson (2006), in their study of women who experienced terminations performed after diagnosis of foetal anomaly, have found it an invaluable technique for accessing 'stigmatised and isolated populations whose voices are stifled'. The asynchronicity can also be a benefit: Bampton and Cowton (2002) found that "…one of the major benefits of the e-interview, in that busy subjects—and busy researchers, for that matter—do not have to identify a mutually convenient time to talk to each other. Nor do they each need to find a single chunk of time in which to complete the full interview, since as an interview—rather than something more akin to an e-mailed questionnaire—there should normally be more than one episode of question and answer."

This format may also be used creatively to bridge the gap between the interviewer and participant in terms of language and geography. Other uses could be in the confirmability of qualitative evidence, such as allowing a participant to read through a previous interview transcript, and taking an opportunity to ask about specific incidents within it.

9 Other computer-based interview methods

Instant Messaging is one of the truly 'instantaneous' technologies that can provide a platform for interview. It is possible to type a question and get a real-time answer, and some services allow the use of multiple services in one session: e.g.

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combining an audio call with typed responses, or a video call with audio, similar to Skype. Flynn (Flynn, 2004; Flynn and Kahn, 2003) has noted that IM can be misused in businesses as a technology, and therefore use of it must be carefully managed. As IM is not a truly accepted medium of contact for interviews, there is a paucity of studies in which it has been used in terms of general data collection (Stieger and Göritz, 2006, 552). In terms of using IM as an interviewing method, it must be considered that it again falls short of the 'gold standard' and does not have the research historicity of telephony or videoconferencing, but it may provide access to a participant group that might otherwise not be reached.

10 Drivers for the use of VoIP as a medium

The drivers for using VoIP as a medium to connect with the business for the PhD study were:

- Expense – calls made PC-to-PC were free

- Time – the time taken to set up the VoIP interview was considerably less than the travel time usually taken to reach the SME's location

- Availability – participants felt in control of when they wanted to schedule the interviews, and it was usually on shorter notice than physical availability e.g. the flexibility of being able to call a teleworker either at home or at the business, using the same contact details

- Practicality – the Skype VoIP system was already available within the company, required no training on the part of the researcher or participant, and provided a good quality audio for recording and later transcription

- Acceptability – participants were conversant with VoIP technology and the Skype system was a conventional program in frequent daily use within the SME, as it had been instituted by managers

11 Aspects of the use of VoIP for remote interviews

The method of VoIP for remote interviews is one that has great potential to become an alternative to the 'gold standard' of face-to-face interviews. However, new skills must be learnt: presentation on-camera, a skill already needed in videoconferencing, must be combined with interview techniques to improve interviewer rapport with the participant for the chance to collect more granular data. VoIP interviews can be supplemented with other technologies, such as the use of an interactive whiteboard, in order to counter the difficulties found when trying to get a participant to focus on supplementary material such as illustrations, graphs or charts. Technical skills are also needed; VoIP programs must be installed, upgraded as needed, and technical delays resolved quickly if an interview is interrupted or delayed.

There are method-specific difficulties and disadvantages. One of the main problems is the need to have specific software. Though the ease of downloading programs can be great, it can also tax networks where there needs to be permission from a network or systems administrator in order to have access to certain programs. Updates and upgrades can cause the same problem. It may be

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advisable in practical examples, to (a) make sure all equipment is ready before the planned session, and (b) ensure that the format of the session is firmly understood beforehand - an unexpected video call may be harassing for the participant, or seen to be an unwanted intrusion. There may be no clause in the research agreement for video capture, or a moratorium on filming in the workplace. In such cases, it is necessary to review the researcher and participant agreement on use of their data in the study before such material is collected. In terms of recording a VoIP video call, if all that is being used from the interview is audio material, there should be no need to record the video element of the call. If there is no use for such data, it may become a liability rather than a source of evidence, due to the research ethics of collection and storage of personal data.

The security within a VoIP call is perhaps as open to interception as email. For very sensitive subjects, it may be less risky to use a face-to-face interview.

12 Practical hints for maintaining a VoIP interview

Before arranging VoIP interviews, it may be helpful to check some of the points below to maximise the value of a VoIP interview. There are many similarities to a videoconferencing or telephone interview, but some aspects are more pertinent than others when undertaking either a first VoIP call or interview.

- Be aware that the other party will need to have access to the same services and programs – Skype will not interact with another VoIP client, such as Yahoo Messenger, for instance, even though both have the same facilities.

- Arrangements beforehand to verify what form of interview is required (e.g. intention to make a voice call, versus a video call) allow you to choose which form of recording set-up is best for the material you will be collecting.

- An agreement of who will call whom is useful as an email reminder in confirming arrangements. If it is available, an Instant Message reminder through the VoIP service just beforehand can also be useful to a remote worker.

- Allow a certain amount of time for participants to respond to questions, whilst at the same time watching for a 'call dropout' (disconnection), which can happen with VoIP calls. Causes of call dropout can be as simple as a poor Internet connection with either party, but it may mean that there is moderate to significant difficulty in maintaining the call, or there may be interruptions of static on the line that can obscure parts of a recording. Explaining to the participant what has happened can minimise the interruption to their train of thought.

- If the participant/s are not used to holding a conversation over VoIP services, the process may be more difficult. VoIP is not the best choice for use with participants who show an aversion to technology, and may not be easy to use with those who are visually or hearing impaired. For elderly or infirm participants who are unfamiliar with ICT, the process may be more stressful than a telephone interview. Be sensitive to their needs and inclinations.

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- Identify which assistive technologies might make a difference to the use of VoIP. In the researcher's case study, an interactive whiteboard was used, but the principle of using interactive media alongside VoIP could be extended to references to other online material, photographs, group wikis, film clips or other media.

Another point that has been noted has emerged from experience in using Skype: headphones may give a better experience within a VoIP call. This method was not used within the two SME VoIP interviews, as the digital recorder was being used with the computer's external speakers. Headphones may be more useful with a computer-based recording. Personal preference means that the way that participants and researchers choose to interact with the VoIP software will change the form of recording methods used for the interview.

13 Conclusion

The use of VoIP as a method for remote interviewing is one with great potential in qualitative research, and may be used in preference to current technologies to gain access to participant groups. In examining VoIP as an interview method, the researcher experience has been described fully in terms of the conducting of two VoIP interviews in order to relate specific experiences, both positive – such as the longer time spent in interview with participant 2, and negative, such as the call disconnections part-way through interview. The addition of an electronic whiteboard in connection with the interviews handled the need to show participants material in-session, and allowed them to interact with the materials. This interaction may have contributed to a longer interview period.

Whilst there can be comparison with a 'gold standard' of face-to-face interviewing, VoIP has shown that this alternative method can achieve results with participant groups, building on skill-sets for remote interviewing, interpreted with new technology.

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