

Commercial Sensitivity in the IS discipline: a practical approach and consideration for researchers entering the field

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Abstract

Commercially sensitive research poses a number of methodological challenges. These range from access to participants through to data rigour and reliability. Failure to address these challenges prior to data collection can lead to flawed research results and impact negatively on conclusions reached, theories propounded or policy recommendations developed. Despite the significance of these challenges, there is little consideration of them in current IS and management literature. Drawing on social science discussions of 'sensitive' research and the researchers own experiences of a commercially sensitive research domain, this paper provides insights on how to address the challenges of commercially sensitive research.

Keywords

Commercial Sensitivity, IS Discipline, Methodology, Data Collection

INTRODUCTION

In the information systems and management fields, researchers investigating commercially sensitive topics such as 'strategy', 'competitive advantage' and 'business ethics' are likely to encounter a number of problems. The nature of this type of research is likely to have implications on data collection not only for gaining access to participants, but may also affect the quality and type of data collected. This has a number of potential consequences. For example, participants are likely to answer questions in a manner ensuring self-protection and therefore the responses given may not be a true or accurate representation of the phenomena being investigated. As a consequence the validity and reliability of the data may be questionable. There is a risk that conclusions drawn from such research may be partial or flawed. This in-turn has potentially serious implications for theory building and/or the development of public policy based on such research.

Although 'strategy' and 'competitive advantage' are the focal points of a plethora of IS and management papers, there is very little guidance from within these disciplines on how researchers should approach commercial sensitivity research domains or prepare themselves prior to conducting data collection. In this context, the impetus for this paper came from the challenges faced by the researchers in preparing to conduct research in the 'commercially sensitivity' domain of information systems strategy (ISS) in Australian biotechnology firms. In responding to these challenges the researchers began by examining approaches to these topics in other disciplines including sociology and psychology and more broadly examined the area of 'sensitive research'. This was considered appropriate as many IS research methodologies have evolved from these disciplines. Although the research topics covered in the sociology and psychology literature were not directly relevant, some of the suggestions made on how to deal with the challenges of conducting sensitive research exhibited the potential for application in the IS discipline.

This research paper draws upon a number of articles written in the fields of sociology and psychology on 'sensitive topics' and looks at applying the insights generated to the domain of 'commercially sensitive' IS research. The utility of a number of these insights is illustrated through their application by the researchers to their own 'commercially sensitive' research in the Australian biotechnology industry. The purpose of this paper is to provide IS researchers with practical insights on how to address the challenges faced when doing commercial sensitive research. More broadly, it is hoped that the paper will make a contribution to initiating a broader discussion on sensitive research within the IS discipline.

SENSITIVE RESEARCH

The definition of the term sensitive research appears to be problematic in the literature (Lee and Renzetti, 1993) and often depends on the social context in which the phenomena being investigated. Adopting Sieber and Stanley's (1998) definition, sensitive research is perceived as studies in which there are potential consequences or implications, either directly for the participants in the research or for the class of individuals represented by the research. In the case of 'commercially sensitive' research, these potential consequences or implications tend to be of a commercial or business nature. Such consequences may include divulgence or disclosure of business information, which may potentially compromise the competitive position of the business or be of potential risk to the individuals within the organisation or industry.

Sensitive topics raise a whole range of problems including specifically those of a technical or methodological nature (Renzetti and Lee, 1993). Sensitivity affects almost every stage of the research process, from the formulation through design to implementation, dissemination and application (Renzetti and Lee, 1993). Renzetti and Lee (1993) argue that ignoring methodological difficulties inherent in researching sensitive topics is socially and scientifically irresponsible. Such ignorance may potentially generate flawed conclusions on which both theory and public policy may be built (Renzetti and Lee, 1993). Therefore it is important that the research is designed so that the implications of sensitivities are minimised (Sieber, 1993).

Faced with the challenge of commercial sensitivity in the area of research into information systems strategy (ISS) in Australian biotechnology knowledge-based small to medium sized enterprises (SMEs), the researchers initially examined the management and IS literature for guidance. Surprisingly, practical literature on how researchers should enter the field and what are appropriate techniques to deploy in addressing these challenges appeared absent. Whilst it is evident that other researchers have investigated areas such as "competitive advantage" and "strategy", there is little evidence in these papers on how the researchers have coped with researching commercially sensitive material. One exception is the work by Randall and Gibson (1990) on business ethics, who make a critical assessment of various data collection methods for exploring this topic. To enable the researchers to appropriately design and conduct research in this commercially sensitive area, the literature review was broadened to include the fields of sociology and psychology. These disciplines are exploring complex social and behavioural phenomena such as AIDS, child abuse and domestic violence. This has generated an increasing body of literature addressing 'sensitive research' (Zetter and De Souza, 2000). Whilst the research topics of these studies are of little direct relevance, this literature reflects on methodologies and data collection strategies that provided the researchers with some useful insights on how to proceed with this IS research.

RESEARCH CONTEXT

The primary focus of the commercially sensitive research under discussion here is an investigation into how Australian biotechnology businesses, a type of knowledge-based SME, use their information systems strategy (ISS) to source competitive advantage. From the outset of this research, it was evident to the researchers that the research design and implementation would require careful consideration. Research into ISS in Australian biotechnology firms may be perceived to be 'commercially sensitive' for four reasons-

1. This research needed to explore topics such as 'competitive advantage' and strategy' to enable the research question to be answered. Such delicate topics tend to touch on the very essence of how businesses compete, secrets that they may not wish to be disclosed to their competitors.
2. The Australian biotechnology industry is very small and there maybe a threat of individuals or businesses being identified, regardless of attempts to anonymise data collected.
3. The research would focus on the role knowledge, and particularly a type of explicit knowledge, intellectual property (IP) played in their business. IP is central to competition in biotechnology firms (Clarke and Turner, 2003). It was anticipated that there might be a reluctance to discuss in these IP issues in -depth.
4. The science of biotechnology and its applications are a highly topical and sensitive issue, which may affect the type of information businesses are willing to disclose to the researcher. For example, the Genetically-Modified Organisms (GMO) Moratorium in Tasmania prevented one biotechnology firm from discussing in a roundtable forum.

Due to the commercially sensitive nature of this topic, three main obstacles for conducting research in this space were anticipated

1. Finding participants initially to participate in this investigation
2. Reticence among participants about revealing their strategy and other business information.

3. Ensuring the rigour and reliability of the data.

Therefore a research approach was required that would enable the researchers firstly to gain access to these businesses and secondly, elicit the information needed to address the research questions, whilst ensuring data rigour and reliability.

It was identified that an interpretative research epistemology would be most appropriate for answering the research questions (Clarke and Turner, 2002). The research project involved a number of stages, each having different roles in helping to conduct research in this space. This can be summarised as follows:

Familiarisation - The researchers attended and participated in a numerous biotechnology conferences, workshops and round-table discussions and met with a large number of industry representatives.

Canadian Experience - To test the research approach in a similar industry without contaminating the primary data population in Australia preliminary research of the topic was conducted in Canada. This allowed for reflection and refinement of the research approach.

Primary Collection/ Interviews - Semi-structured interviews with Australian biotechnology firms and various industry players were identified as the most appropriate research technique to collect the primary research data.

Australian biotechnology survey - A survey of the remaining biotechnology firms to test some of the outcomes of the primary collection phase.

GUIDELINES FOR CONDUCTING COMMERCIALLY SENSITIVE RESEARCH

From a review of predominantly sociology and psychology-based papers, six broad research design issues were identified in the area of conducting sensitive research that can be adapted for the IS discipline. Emerging from this literature review was that many of these considerations were interlinked and thus a research strategy in a commercially sensitive domain required a comprehensive, holistic approach. This section is an attempt by the researchers to address and overcome some of the methodological difficulties in conducting research in a commercially sensitive area. While it has been recognised that sensitive research topics have implications for the whole research process, the focus of this paper is presenting a series of guidelines for researchers before embarking on data collection and analysis. Discussion will then follow focusing on what impact this might have on the rigour and reliability of the research data.

Access to Participants

Crucial to sensitive research is for the researcher to gain access to the field locations and above all develop a rapport with and the confidence of potential respondents (Zetter and De Souza, 2000). The use of a gatekeeper was suggested in by several researchers as an approach to gain access to research sites (Zetter and De Souza, 2000). Although powerful gatekeepers can impose restrictions on researchers and have the capacity to bias who is interviewed and what can be researched (Renzetti and Lee, 1993; Platzer and James, 1997). The use of personal connections in gaining access to participants is also useful as it can also help to balance power relationships (Tang, 2002).

The authors adopted a number of strategies for accessing participants. Firstly, the researcher attended a number of biotechnology conferences, presentations and expos both nationally and internationally. This enabled the author to learn more about the industry itself, but enabled the researchers to meet with industry representatives in what was perceived to be on their own or neutral ground. The researcher was able to discuss her research with the company representatives in an informal manner and ask them would it be possible to contact them at a later date to partake in the study. A positive result was usually signified by the exchange of business cards.

The second approach adopted was to make use of personal contacts. Through acquaintances working in the industry, the researchers were able to get the details of potential participants. The attendance at a workshop also gave the researcher access to attendance lists. Unlike other initial contact meetings with participants, in both these approaches a level of rapport, trust and familiarity already was present and established from the outset. For example in the case of initially contacting attendees on the list, their common experience of the workshop gave both the researcher and participant has something in common to draw upon. Therefore the researcher and participants appeared more relaxed and comfortable.

The final strategy adopted by the authors was to write a research objectives summary that appeared in a fortnightly AusBiotech Newsletter, distributed electronically to members. This summary was written in a journalistic style in order to 'sell the value of the research' to the biotech firms and inviting businesses to participate. The summary subsequently became important for the researchers to refer to when talking with

potential participants. In several cases it appeared to validate the study, as it projected the positive image that the industry body was endorsing this research.

The Relationship between Researcher and Participant

The management of relationships is considered to be both the source of many field work difficulties and also the key for successful accomplishment of research (Russell et al., 2002). In social research, where the methodology of this research is applied, the researcher relies on the people's account as main source of information (Zetter and De Souza, 2000). Establishing trust between the researcher and the researched is key for obtaining good data (Zetter and De Souza, 2000). Hall and Callery (2001) suggest that as data is produced through the creation of meaning during processes of interaction, the quality of the data will be influenced by the nature of the relationship between the researcher and participant.

In sensitive research topics, the relationship between the researcher and the participant may be tainted by mistrust, concealment and dissimulation from the outset (Lee and Renzetti, 1993). This in turn has detrimental effects on the levels of reliability and validity and raises a need for ethical awareness of the researcher (Lee and Renzetti, 1993). The sensitive nature of a topic has implications for the entire research process, but particularly for the interaction between researcher and subject (Kennedy Bergen, 1993).

Building Trust and Rapport

It is essential that research participants are aware that their rights to privacy, anonymity and confidentiality will be protected (Renzetti and Lee, 1993). Tang (2002) made known her research to interviewees as a strategy for overcoming power dynamics. In a similar manner, the authors perceived it was essential to be as open and frank about the research process as possible. As part of this trust building process, the participants were given an information sheet outlining the study and its purpose, the participants' rights, what the process would involve and how their confidentiality and anonymity would be assured. In some cases, participants require considerable assurance about the confidentiality of the research material before they agree to participate (Platzer and James, 1997). The researcher explicitly stated her research was not connected to or funded by any government or industry body, guaranteeing a level of neutrality. This clarification was made after being asked on two occasions during the trip to Canada whether the project was being externally funded or sponsored. In Canada, the researcher also found that the fact that she had self-funded trip had on several occasions there was a willingness by participants to assist the research. This included on one occasion, a participant picking the researcher up when she was lost, taking her to lunch and also providing her with extra confidential documentation accessed from the business's intranet.

Assimilation

In an attempt to achieve a level of assimilation with people within the industry, the researcher partially immersed herself in the field in what has referred to as 'prior ethnography' (Jansen and Davis, 1998). This involved a time of engaging in informal conversations and being involved with participants on their territory. The first year and half of this project involved attending conferences, workshops, round table discussions and volunteering and working at conferences. This allowed the researcher, on an informal basis, to discuss her research project with industry representative to get an awareness of the level of sensitivity and understanding of their problems and issues and to familiarises herself with the terminology.

The researcher also took the opportunity during this time to learn as much as possible about the science of biotechnology and the industry. The prime reason was to ensure familiarity with terminology for when she entered into discussions. On reflection, the Canadian experience revealed an inadequate knowledge of the various stages of clinical trials and the various rounds of funding. Familiarity with terms and processes was important to ensure active interaction with the participant in interviews and other situations, attempting to reduce power relations which may occur by researcher not being familiar or considered not credible as they are not versed in the area.

Initial contact with the Canadian and Australian firms involved an introductory email, a brief synopsis of the information sheet. A brief bio was also attached to the email. This bio gave a brief background on the researcher, acknowledging her previous work experience in a consulting company. It was emphasised that in this capacity, the researcher had extensive experience and understanding of commercial sensitivity. It perhaps also gave the researcher credibility as someone with business experience/knowledge and not straight out of university. The researcher had also completed a science degree. On reflection of the Canadian experience, this acted as a mechanism for breaking down barriers between the researcher and participant. Firstly, the researcher appeared to be accepted as a 'scientist'. This tended to give the impression the researcher was familiar with the terminology, had an understanding of the scientific process and issues of facing the scientific community in general. Secondly, the researcher and participant on many occasions came from a similar background, moving

from the scientific to the business domain. Similarly it was found in Australia, when emailing potential participants, that the researcher positioning herself as a PhD student, tended to get more expressions of interest and willingness to assist by participants holding a PhD than by those who did not. The researcher reflected that this may be attributed to the participants' experience of previously being in a similar position to the researcher.

Initial meetings with several Australian firms occurred at BIO2002. The researcher approached the exhibition stand, introduced herself and exchanged business cards. The business representative was then informed about the research which was being conducted and asked if it would be possible to contact them at a later date to discuss this research. Several businesses obliged and welcomed discussion at a later date. The researcher considers that this environment was an unobtrusive location to meet and it would be of benefit to meet the researcher in person to help establish trust and rapport.

Power Relationships

Differences between the researcher and participants can also influence access as well as the research process. Researchers need to reflect on participants' gender, age, social class, ethnic background, beliefs and specific experiences, in order to get an understanding of their way of thinking and have an idea where the participant is coming from and what influence this might have on gaining access (Jansen and Davis, 1998). This idea of power relationships appears to be a central tenet in feminist methodology (Jansen and Davis, 1998; Tang 2002). Power relations in the interview process are affected by the dynamics between the pair (Tang, 2002). The interviewee as well as the interviewer's perception of social, cultural and personal differences have an important impact on the power dynamics in the interview (Tang, 2002). The common strategy appears within sociology is for the researcher to attempt to share the power with the participant (Hall and Callery, 2001; Tang, 2002).

A number of techniques were identified from the literature, that are used by sociologists to help minimise the power relationship

- Identifying Common Ground- This involves identifying something in which both the researcher and the participants have in common (Hall and Callery, 2001).
- Benefits to Researcher - This involves identifying something that may come out of the research, which may be a benefit to them. Therefore the participants have something to gain from the research as well as the researcher and the interaction is not totally one-sided (Sieber, 1993).
- Self-disclosing - This is achieved by engaging participants in what would emerge from the analysis, what would be presented and how the findings would be used (Hall and Callery, 2001). Tang (2002) for example found that strategies such as explicitly explaining to the interviewees, what the process would involve, assisted in breaking down some barriers.
- Personal Contacts - The use of personal contacts to provide direct access to potential participants. Tang (2002) used such a strategy to overcome power relationships in her research.

In conducting research in the Australian biotechnology industry, there are a number of factors that may influence the relationship between the researcher and participants, creating a situation where the researcher would be interviewing 'up'. The inherent problem with this type of relationship is that the researcher had more to gain from this interaction than the participant. Therefore potentially the participant may not be forthcoming or revealing with information required by the researcher. In an attempt to minimise this situation, the researcher tried to share the power with the participant. Firstly, it was important to establish credibility and rapport. Similar to Tang (2002), the use of personal contacts appeared to give the participant an impression of being endorsed by the contact. Secondly, the researcher attempted to sell the research as something, which may be of benefit to their business. Therefore it would be of an advantage for these businesses to participate. Furthermore by asking the participant what they would like to get from the research, the participant may perceive they have some input into the research and its outcomes. The paragraph in the Newsletter gave an informal endorsement by the industry body, which also helped with raising the profile and the credibility of both the researcher and research project. Finally the researcher found that a science background, in the Canadian experience, helped to overcome perceived differences and therefore ensured her post-nominals were included in her email signature.

As no two interviews are the same, forms of interaction between the researcher and the researched are highly individual and it is impossible to predict levels of cooperation. (Hall and Callery, 2001). Therefore it becomes important for researchers to be able to read the situation and adapt themselves and possibly their research accordingly.

Research Method

It is widely acknowledged that research methodology is determined primarily by research problem and question (Trauth and Connor, 1991; Trauth, 2001). This is echoed by Klein (1983, cited in (Renzetti and Lee, 1993)

who noted that “what to investigate must come before the decision of how to go about doing one’s research” . However, what is being ‘investigated’ may be constrained by the sensitivity of the topic (Renzetti and Lee, 1993).

Amongst the literature, there is some discussion on what methods appear to be more appropriate for investigating sensitive topics. The literature indicates that the method of collecting data can affect the answers that are obtained (Tourangeau and Smith, 1996). It is not the intention of this research paper, to advocate the use of a certain research methodology however to acknowledge that several researchers have highlighted a number of advantages and disadvantages of using certain techniques.

Some researchers have reported increased levels of reporting utilising self-administration of survey questions opposed to the same questions administered by interviewer (Wiseman, 1972; Sudman and Bradman, 1974). Questionnaires offer anonymity and detachment from the researcher, which may be attractive to the participant. An anonymous survey was distributed to the remaining biotechnology firms based on some of the outcomes of the interview process. The survey also had the purpose of triangulating the data.

Conversely, some researchers have claimed that quantitative research may not be the best choice (Jansen and Davis, 1998). For example, Randall and Gibson (1990) attribute their low survey response rate to the sensitive nature of their topic of ‘business ethics’. Sensitive topics may be better researched using qualitative approaches which offer more personal and interactive communication and has the potential to diminish the typical power relationships present in conventional research (Jansen and Davis 1998). For example Randall and Gibson (1990) suggest using techniques such as personal interviewing. Qualitative methods are being reinvestigated and redefined in the context of the increasingly sensitive subjects to which they are applied. (Zetter and De Souza, 2000).

In the context of researching ISS, the research questions suggested that an interpretive epistemology adopting qualitative research methods was most appropriate (Clarke and Turner, 2002). The research approach adopted semi-structured interviews. This choice was reiterated particularly after the experience of some fellow colleagues whose survey was received with some objections from biotechnology companies. These researchers on several occasions received phone calls from businesses who considered questions about the number of employees, as confidential information. Surprisingly, when these colleagues asked similar questions in phone interviews, the biotechnology firms were much more revealing and talked readily about their experiences with intellectual property. The flexibility which the semi-structured interview methods offers, enables the researcher to adapt to the various situation. For example, changing the ordering of questions to suit the situation. As noted by Zetter and De Souza (2000), sensitive research permits the adoption of flexible approaches to data collection, dictated by field conditions.

Other practicalities of conducting qualitative interviews also need consideration. For example, the use of a tape recorder must be evaluated for its appropriateness. Zetter and DeSouza (2000) did not use a tape recorder. They perceived that the respondents would be more self-conscious about their answers and perhaps less forthcoming (Zetter and De Souza, 2000). The researcher, when conducting her pilot interviews faced a similar dilemma. Due to the informal nature of the discussions and often the location, it was considered inappropriate to use a tape recorder. Instead, this form of data collection placed great pressure on the listening and writing skills of the researcher and requires a long attention span (Zetter and De Souza, 2000). Writing and interpretation skills are extremely important for this kind of field work (Zetter and De Souza, 2000). Therefore in the case of the researcher when conducting interviews, it was important for her to practice the interviews to enable her to develop these skills and be aware of the limitations so these could be counteracted in the primary data collection phase.

Question Types and Ordering

The type and ordering of the questions used is also an important consideration in designing the research approach regardless of the methodology. Although the primary research collection method in this research was to be in-depth interviews, the researcher utilised social science literature on both qualitative and quantitative research.

When developing a question framework for either qualitative or quantitative research, factors such as question types and question ordering need to be considered. For sensitive issues, several researchers recommend using open-ended and longer questions to help reduce the sensitivity as they appear less threatening (O’Rourke and O’Rourke, 2002) (Blair et al, 1977 (in Foddy, 1996)). Although Foddy (1996) suggests caution is needed when using lengthy questions as they may unintentionally introduce bias.

The ordering of questions is also an important consideration, with the recommendation for more sensitive issues to be discussed later on in the interview (O’Rourke and O’Rourke, 2002) (Zetter and De Souza, 2000). Zetter and DeSouza (2000) found the multi-method approach very useful. This involves a question framework starting

with very simple, direct, non-threatening questions to build up the relationship between the researcher and the participant. Therefore when the in-depth interview came later, it did not seem to be too threatening. This was attributed to the participants increased awareness of the interviewer and their research.

The ordering of the question can also have an affect on how the question is answered and context in which it is discussed. The ordering of suggest the context created by the questionnaire (Hamby and Finkelhor, 2001). The language used in a question helps to create a context that may influence the respondent's answer (Hamby and Finkelhor, 2001). The sequence of questions also leads respondents to particular understandings of the meanings of words used (Clarke, 2002). The context that each respondent perceives for the questions are likely to include factors that are extraneous to the designer's intention, that that may vary during the course of the data collection, and may even be unknown to the researcher. (Clarke, 2002). Some researchers found it particularly useful to end the interview with an open question such as 'Do you have any further concerns about your previous answers?' (Zetter and De Souza, 2000). This enables the respondents to articulate concerns and further reflect on the research (Zetter and De Souza, 2000).

In this research, the authors adopted a similar approach to Zetter and De Souza (2000) in both the development of interview and questionnaire question framework. The initial section of the question framework aimed to explore the background about the interviewee and the business itself, to act as ice-breakers and make both the researcher and interviewee comfortable. The framework progressively moved into questions about technology and knowledge, which were more at the crux of their business, and were likely to be perceived as sensitive questions. The researcher ended with questions about whether they had any questions about the research or whether they would like to add anything to the their previous answers. In most of the cases, the participant tended to ask questions about where the researcher would be travelling to next rather than the nature of the questioning itself.

Phrasing

Phrasing questions in sensitive research is particularly important (Kennedy Bergen, 1993). The wording or phrasing of the questions is also likely to contribute to the reliability of the data. For example, in Hamby and Finkelhor's (2001)'s work on child abuse, they postulated that how many times the term 'crime' and 'abuse' were used in the survey/questionnaire influenced the response rate. The phrasing of questions has major impacts on respondents, and the impacts vary between respondents (Clarke, 2002). Questions about sensitive topics cause respondents to choose their answers carefully, with a view towards self-protection at least as much as towards honesty (Clarke, 2002). A number of different strategies were identified.

- Loaded questions- refer to the process of biasing a question to influence the subject's comfort with providing a response (Dean et al., 2000)
- Familiar words- using familiar words to assist in understanding and increasing comfort with questions (Bradburn and Sudman, 1979; Foddy, 1996; Dean et al., 2000).
- Long questions- short question almost always preferable to long questions (Foddy, 1996). However long questions can provide memory clues to respondent or to give the respondent more time to recall past experiences on sensitive topics (Bradburn and Sudman, 1979).

In this research, the authors were weary about the use of loaded questions but use familiar words and long questions in the phrasing. For example, using biotechnology-specific acronym in one interview, the participant appeared to be surprised that the interviewer knew what was meant, and seemed comfortable continuing to talk without having to stop and explain. This also assisted with the flow of the interview.

The dominant phrasing technique adopted by the authors in the research was the use of euphemisms. A euphemism is the 'substitution of a mild, indirect, or vague term for one considered harsh, blunt, or offensive' (Macquarie Dictionary). For example, 'to pass away' is a euphemism of 'to die'. For example: 'What is your business strategy?' may be changed to 'Where do you see your business heading in the future?'. However, care must be taken to ensure that the meaning of the word is not detracted from by the use of other terms. This may potentially affect how the question is answered and whether the intended question has actually been answered. The use of probes was found to be an effective strategy for directing the interviewee to answer the question.

Benefits to the Researched

Finally, it has also been suggested that researchers should learn what kinds of sources would be considered of benefit and plan to give back to the participants as many of these benefits as possible (Sieber, 1993) Participants should receive something of actual value to them- information, referrals, services (Sieber, 1993). Furthermore, by finding out what would be considered beneficial for the participants, is an effective processes for gaining rapport and trust, for establishing equal status relationships and for learning about the respondent group and

reducing barriers to effective communication (Sieber, 1993). Zetter and DeSouza (2000) adapted this approach by asking the participants in the concluding part of the interview what they would like to get out of this research. In this research, the authors talked with biotechnology firms about what the likely outcomes of this research would be. At the end of each interview, participants were asked what would be benefit to them to ensure that it might be in a format useful to them.

In summary, a number of strategies are adopted by sociologists and psychologists to enable them to gain access to participants and elicit the data needed to answer their research question in sensitive research contexts. However, consideration must also be given to how such strategies and techniques may improve data rigour and reliability.

DISCUSSION

Emerging from the social science literature were six consideration areas for researchers. The focus of this paper has been on preparing the researcher for the formal data collection phase, by ensuring the research design is appropriate for the research context. Sensitive research raises concerns about data validity, reliability and rigour. The strategies mentioned previously attempt to address these concerns by minimising sensitivities and threat to the participants. If the threats/risks of the research are perceived to minimal, it is likely the participants are likely to be more forthcoming with information.

The nature of the relationship and connectedness between the researcher and participant, referred to as relationality (Hall and Callery, 2001), appears to be one of the most influential factors in determining the success of sensitive research. The relationship between the researcher and participant not only affects access to participant but also what information is revealed in the data collection phase. Unless a relationship of trust is developed with participants, confidence is undermined about whether the research findings accurately represents what is significant to them in their own lives (Hall and Callery, 2001). In this research, considerations about the 'nature of this relationship' between the researcher and participants needed to be addressed. Power relationships such as differences in age, background, gender and experience may play a role in what is revealed to the researcher. The most common approach adopted by sociologists is to attempt to shift the power to a more shared relational power with the participants.

Reflexivity of the researcher is vital to help others understand how social scientific knowledge is produced (Brewer, 1993). In sensitive research, reflection also appears an important technique for addressing data validation. For example Brewer (1993) used his reflection to demonstrate some of the social process underlying and operating upon the study. It is also important for the researcher to be conscious of the complexity of roles that he/she has to adopt (Zetter and De Souza, 2000). A useful technique found by the researcher was piloting her research and reflecting on the techniques adopted. Although it is acknowledged that in some situations, it may not always practical. In the case of this research, the trip to Canada provided the authors with the opportunity to reflect ideas the adequacy of her knowledge, what interview techniques were appropriate, what type of questions caused discomfort to the participant. The reflections could then be incorporated into the design of her primary data collection.

In sensitive topics areas, triangulation of data sources may also need to be considered, to help with the reliability and validity of data (Zetter and De Souza, 2000). This research adopted two methods, in-depth interviews combined with a brief follow-up survey of remaining biotechnology firms based on analysis of the interviews.

Sensitive topics can affect the whole research process, from its inception through to its dissemination. For example, the dissemination of research findings (Platzer and James, 1997) is an important issue in sensitive topic areas. In the case of this research, it was important that appropriate measures were in place, to ensure participants could not be identified directly or indirectly from the research.

A limitation of this paper is that it has concentrated on the research design phase of the research process and more specifically on entering the field and on data collection techniques. Although consideration of other approaches, such as quantitative-type questionnaires are discussed in relation to question types, ordering and phrasing (above), it is acknowledged that the majority of the discussion has focussed on the qualitative approaches adopted in this research project. This paper has primarily focused on the importance of developing relationships with potential participants and has been portrayed this as a predominantly social activity. It is also important to consider the role of more formal arrangements, such as confidentiality agreements. Many of the International Codes of Ethics in Information Systems also provides appropriate guidelines for researchers and practitioners to follow with regards to confidentiality and conduct. Finally, action research although not explored in the paper, rates a special mention. The cyclical nature of the action research approach and the close relationship that are developed with clients/participants may provide a useful framework through which to build rapport and overcome power relationships. However, more work is needed on what role action research may play in the commercial sensitive research context. The intention of this paper however, has been to highlight the

need for researchers, regardless of the choice of research methodology, to be vigilant in their research approach when conducting commercially sensitive research and address such issues before entering the field.

CONCLUSION

Conducting research on 'commercially sensitive' topics poses a number of methodological dilemmas. These predicaments include how to gain access to participants and to minimise sensitivities to ensure rigour of the data. There is clearly a lack of IS and management literature providing guidelines to researchers on conducting research in such contexts. This paper address these issues by firstly identifying there is a problem and secondly illustrating a number of strategies utilised in sociology research and adopting them within a commercially sensitive topic area. One major determinant of success of such research appears to be the relationship between the researcher and the participant. Considerable effort is required on the part of the researcher to build and establish their relationship with the participants before even commencing data collection. It was also apparent from this research that a number of these strategies were interrelated and thus a research strategy involved a combination of the above techniques. No two research contexts are the same, and thus there is no generic recipe for conducting commercially sensitive research. The role of the researcher is therefore to design and utilise strategies which are appropriate for their particular situations, and that provide a level of flexibility in their research design that will enable them to adapt to idiosyncrasies of their specific research contexts.

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