Chapter I

The Choice of Qualitative Methods in IS Research

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INTRODUCTION

In this introductory chapter I set the stage for the remaining chapters by discussing factors that influence the choice of qualitative methods for information systems research. In doing so, I provide examples from my own work as well as that of other qualitative researchers in the IS field. I consider these influencing factors in order to highlight the interplay between methodological choices and the context within which they occur. Just as decisions about information systems need to be considered within their contexts of use, so too do choices about qualitative methods for information systems research.

In successive waves throughout my career, I have broadened the scope of the qualitative research methods I have chosen to use. In doing so, I have also expanded the range of issues I have had to confront. My qualitative research initially took the forms of case study and policy analysis as I followed the telecommunications privatization movement in the U.S. (Trauth 1979, 1986; Trauth, et al., 1983, 1991). The next stage of my journey began in 1989 when I was developing a research plan for a country-level case study of Ireland's emerging information economy. In this project the scope (the entire country), the level of

analysis (societal), and the interpretive nature of the research presented significant challenges. First, countrywide case studies are typically statistical studies.[1] Second, the organizational level of analysis is typical for published qualitative IS research. Third, this research project represented a shift from the more positivist use of qualitative methods in my policy analysis research to the interpretive use of qualitative methods for theory development.[2] For all these reasons I had little by way of exemplars in the IS field to guide me through the morass of methodological choices. After I chose an ethnographic approach, I was forced to extrapolate, as best I could, from examples in other fields.[3]

A new phase of my involvement with qualitative research methods began in 1997 when I was confronted with two new issues. One was adapting interpretive research methods for the virtual realm. I was particularly interested in the process of applying interpretive methods such as ethnography — which assumed both face-to-face data collection and extended periods of time in the field interacting with the research subjects — to study the behavior of virtual groups. This research led to the other issue: developing and assessing interpretive research methodologies. Whereas positivist research can appeal to established statistical tests to certify reliability and validity, interpretive information systems (IS) research has not had such a tradition. Until quite recently, there has been little available in the IS literature to guide the interpretive researcher. For these reasons I became interested in contributing to the development of a cumulative body of knowledge regarding the use and assessment of interpretive research.[4]

Throughout all these phases of my research career what I most often sought were examples to help show me the way. I wanted to see how others were engaging with research issues that were similar to mine, whether they were about the choice of appropriate method, the particulars of data collection and analysis associated with a given method, or finding appropriate evaluative criteria once the method was chosen. Unfortunately, I was often frustrated in my attempts to do so. The public discussion of qualitative methods in information systems research is fairly recent and heavily influenced by geography. The "Manchester Conference" on information systems research is generally viewed as initiating the discussion (Mumford et al., 1985). Another European conference held in Copenhagen in 1990 (Nissen et al., 1991) continued the discussion of qualitative methods and deepened the

consideration of specific methods. Surrounding these two conferences and the books that resulted from them were occasional journal articles that either discussed or employed qualitative methods (e.g., Benbasat et al., 1987; Kaplan and Duchon, 1988; Lee, 1989; Markus, 1983).

But it was not until the 1990s that qualitative research was consistently published in the major IS journals in which Americans publish predominantly.[5] The focus of those articles that have been published has understandably been on the research, itself, rather than on the mechanics of methodology. Throughout this journey as I sought information and answers, I encountered a growing community of people who were asking similar questions.

For these reasons I was delighted to be asked by Idea Group Publishing to edit a book on qualitative methods in information systems research. Editing this book gives me an opportunity to help address an important need in the IS research community. The purpose of this book is to facilitate discussion of the actual use of qualitative research methods. There are two audiences for the book. One audience consists of students who are learning about qualitative IS research methods in a structured setting. These readers would typically be graduate students in a research methods course or Ph.D. students working on their dissertations under the tutelage of an advisor.

The other audience comprises independent learners. These might be Ph.D. students in a research degree that has no formal classes on qualitative research methods. Or they might be academics who want to learn more about the use of qualitative methods. Such people may not have studied qualitative methods in graduate school but now find themselves in a position of wanting to employ them. They might be mid-career academics, trained in positivist and quantitative methods, who are trying to reach beyond their current comfort level by teaching themselves new research methods. Finally, they may be qualitative researchers who endeavor to expand their methodological horizons by learning more about other qualitative methods that they have not used. These IS researchers already engage in qualitative research but want to add depth to their understanding about research methodology.

The remainder of this chapter lays the foundation for the book by considering five factors which can influence the choice of qualitative methods for information systems research. These factors are then illustrated in the ensuing chapters which highlight the range of issues that can arise in the use of qualitative methods for IS research. Some

chapters consider specific issues associated with a particular methodological choice. Other chapters consider challenges for the IS profession as a whole. Along the way, the reader can accompany the authors as they trace through the whys and wherefores of employing the various qualitative methods. In this way, the chapters serve two informational goals: they illustrate the use of particular qualitative research methods while they critically analyze issues associated with doing so.

FACTORS INFLUENCING THE CHOICE OF QUALITATIVE METHODS IN IS RESEARCH

In reflecting upon my own decisions in order to discuss the choice of qualitative methods and the factors that can influence those choices, I draw upon two research projects in which I chose qualitative methods. Although both of these projects involved interpretive research methods, the characteristics of these projects are sufficiently different in that I have encountered and had to cope with different issues in each of them. One project is an exploration of sociocultural influences on Ireland's information economy and the subsequent sociocultural impacts that have resulted (Trauth, 1993, 1995, 1996, 1999, 2000b; Trauth and Pitt, 1992). I have been the sole researcher in this multi-year ethnographic study. Through interviews, participant observation and document analysis, I collected data at both micro (IT organizations) and macro (Irish society) levels. The other project was a collaborative project that explored the information exchange among individuals employing group support system technology to discuss a high threat topic (Trauth and Jessup, 2000). Our approach was to analyze the data by using two different epistemological lenses: positivist and interpretive. Using these examples and others from the literature, I will now consider five influences on the choice of qualitative methods in IS research.

The Research Problem

Some would argue that the nature of the research problem should be the most significant influence on the choice of a research methodology. That is, *what* one wants to learn determines *how* one should go about learning it. The qualitative methods literature is replete with this rationale for the choices that have been made.

Field studies have been used in a variety of settings to uncover subtleties of process and impact related to the use of information technology. Heaton (1998) chose the interpretive methods of observation, interview and document analysis to examine the social construction of computer-supported cooperative work in two different cultures. Her choice was influenced by her desire to examine what "culture" meant to her informants and how they reflected that meaning in the way they designed systems. Sayer (1998) adopted a postmodern ethnographic approach to reflect the organizational transformation process that accompanies the implementation of business process re-engineering. Komito (1998) turned to ethnography to enable him to highlight the limitations of planned electronic communication systems to replicate existing work practices. To inform their design of an interface to an air traffic control database, Bentley et al. (1992) chose ethnographic methods to study the work practices of air traffic controllers. Finally, Walsham and Sahay (1999) conducted extensive interviews to gain an in-depth knowledge from stakeholders regarding the implementation of geographical information systems for real district-level administrative applications in India.

Another methodological choice in the IS literature that reflects the influence of the research problem is document analysis. For example, Phillips (1998) employed public discourse analysis to reveal the way in which concerns about anonymity, surveillance, security and privacy are integrated into public understanding of a consumer payment system. Davidson (1997) employed narrative analysis to analyze project history narratives contained in research interviews. And Ang and Endeshaw (1997) drew from legal case analysis to develop an approach for representing prototypical disputes in IT management.

In my country-case study of Ireland's information economy, I came to the choice of ethnographic methods because of my desire to uncover the "story behind the statistics" about Ireland's information sector. My research problem was exploring the role of sociocultural context in the development of a nation's information economy. I wanted to identify the influence of culture, history, public policy and other societal factors on an emerging information sector. I determined that the best way to obtain the information I sought was to immerse myself in the world in which they were occurring. I decided to observe people and events, analyze documents and literature, and talk to people both formally and informally. In order to do this, I needed to spend an extended period of time in the field.

The Researcher's Theoretical Lens

In the debate about alternatives to positivist research, some have suggested that the choice of method may not be a choice at all. They would argue that methods are adopted in conformance with the epistemological orthodoxy of positivism (Van Maanen, 1979) or in reaction to it (Markus, 1997). Whether one agrees with this viewpoint or not, it is clear that another important influence on the choice of research method is the theoretical lens that is used to frame the investigation. Throughout the literature about qualitative approaches to IS research, there have been papers that explore this influence. A good example is Orlikowski and Baroudi's (1991) examination of these theoretical lenses and how they have shaped IS research. Citing Chua's (1986) classification of research epistemologies, they go on to describe these three lenses through which IS research is conducted and the influences of these lenses on the choice of research method.

> **Positivist** studies are premised on the existence of a priori fixed relationships within phenomena which are typically investigated with structured instrumentation. Such studies are primarily to test theory... (p. 5)
>
> **Interpretive** studies assume that people create and associate their own subjective and intersubjective meanings as they interact with the world around them... [T]he intent is to understand the deeper structure of a phenomenon ... to increase understanding of the phenomenon within cultural and contextual situations... (p. 5)
>
> **Critical** studies aim to critique the status quo, through the exposure of what are believed to be deep-seated, structural contradictions within social systems, and thereby to transform these alienating and restrictive social conditions. (pp. 5-6)

Given the dominant position of positivism in IS research it is not surprising that some of the qualitative work in North America has been in the positivist tradition (Eisenhardt, 1989; Lee, 1989; Markus, 1983; Paré and Elam, 1997) or that it has attempted to bridge the positivist/quantitative - interpretive/qualitative divide (Gallivan, 1997; Kaplan and Duchon, 1988; Lee, 1991).

But interpretivism is the lens most frequently influencing the choice of qualitative methods. This is because of the assumption that "our knowledge of reality is a social construction by human actors" hence, objective, value-free data cannot be obtained (Walsham, 1995a, p. 376). In addition to ethnographic methods, the interpretive epistemology has also spawned IS research employing hermeneutic methods (e.g., Boland, 1985, 1991; Lee, 1994; Trauth and Jessup, 2000).

Myers' paper on critical ethnography (1997) helps to bridge the understanding gap between interpretive and critical research — the alternatives to the dominant lens of positivism. Ngwenyama and Lee (1997) use the critical lens to guide their approach to examining information richness theory. Doolin (1998) argues that a research approach based on critical theory is needed in order to view information technology within a broader context of social and political relations.

In our study of information exchanges among individuals employing group support systems technology, the influence of theoretical lens was felt on both the choice of research method and on the research findings. In our study, the positivist lens and the quantitative analysis told us *that* people communicated. But it could not tell us *what* they communicated or *why* they communicated as they did. It could not provide us with an in-depth look at the worldviews that sat behind the "facts" shared by the participants. Nor could it provide us with the reasons behind their behavior. The interpretive lens and qualitative analysis of the texts were needed to get at the *why* of the information sharing behavior and the mechanics of *how* within that particular context.[6]

The Degree of Uncertainty Surrounding the Phenomenon

The amount of uncertainly surrounding the phenomenon under study is another important factor in the choice of qualitative research methods. From a positivist perspective, the less that is known about a phenomenon the more difficult it is to measure it. For example, Benbasat et al. (1987) explain that the case study approach is appropriate for IS research areas in which few previous studies have been carried out. Paré and Elam (1997) employed a positivist epistemology to consider how to build theories of IT implementation using case study methods.

From an interpretive point of view, Orlikowski (1993) explains her choice of qualitative methods to study the adoption of CASE tools. She

chose grounded theory because there had been no systematic examination of the organizational changes accompanying the introduction of CASE tools. Hence, no change theory of CASE tools adoption and use had been established. Galliers and Land (1987) point to the added complexity that comes from a view of information systems that includes their relations with people and organizations. Accompanying this broadened scope of study comes greater imprecision and the potential for multiple interpretations of the same phenomenon. Under these circumstances alternatives to quantitative measurement are needed.

For example, in my study of Ireland's information economy, there was considerable uncertainty regarding which sociocultural factors were relevant to Ireland's nascent information economy. Further, I did not know what kind of influence they were exerting on it. In addition, the societal impact of that information economy was barely in evidence when the research began. A questionnaire was not practical since I was unable to pre-specify relevant sociocultural variables. In addition, a survey with its fixed questions and categories would not have given me the flexibility that I believed was needed in such a dynamic research setting. The sociocultural influences were in a constant state of flux, were happening all around me, and the most significant impacts of Ireland's decision to develop an information sector did not begin to emerge until the research was well underway.[7] This uncertainty influenced me to choose ethnography and grounded theory.

The Researcher's Skills

As I mentioned in the Introduction, an individual's level of skill, knowledge and experience in using qualitative research methods is a significant influence when deciding whether or not to employ them in IS research. To the extent that qualitative research methods are part of one's methodology portfolio, an individual can select from them when appropriate. But an individual is less likely to choose to employ these methods if he or she has not learned about or does not have experience with qualitative methods. A researcher's skill in using qualitative methods is an influencing factor not only during the dissertation but also throughout her or his career.

At a 1997 ICIS conference panel discussion on qualitative research methods the senior faculty, junior faculty and graduate student perspectives all spoke to the challenge of developing and maintaining appropriate skills with qualitative methods. Boudreau (1997) represented the

new breed of IS doctoral students for whom qualitative research methods is considered a viable alternative. For her, the educational need was to have more exemplars. Representing the junior faculty perspective Kaarst-Brown (1997) expressed the educational challenge for those who studied qualitative methods in graduate school and perhaps used them in their research. Not only are there ever-changing technologies to learn about, but those who choose qualitative research methods are taking on the challenge of keeping abreast of the new methodologies and new interpretations of existing methodologies.

Representing the senior faculty perspective (Trauth, 1997b), I addressed the educational issues for those individuals who received their education and perhaps tenure at a time when qualitative methods were not a choice for information systems research. Individuals in this position are now confronting phenomena and research issues for which their training has not prepared them. Their training in quantitative research methods, alone, did not equip them with the complete repertoire of research tools needed to study the organizational, societal and cross-cultural issues accompanying the widespread deployment of information technology in the twenty-first century. For these individuals the lack of skill and experience with qualitative methods may well function as a barrier to employing this research approach.

In discussing the role of research training in the United States, Orlikowski (1991) points to institutional conditions that have inhibited the teaching of alternative, qualitative research methods such as action research, critical research and interpretive research. She found the cause of this lack of training in qualitative research methods in the functionalist and positivist perspective of American business schools where information systems is typically taught. In discussing institutional conditions within which doctoral studies are conducted and dissertations are written, she suggested that these conditions have inhibited the use of alternative research paradigms and methodologies with long-term implications for the kind of research we might expect in the IS field.

The importance of this institutional influence is reinforced in Schultze's chapter in which she reflects on her decision to choose interpretive methods for her dissertation.[8] Because she was at one of the few places with faculty expertise in interpretive methods, she felt she had methodological opportunities that many others did not have. That the situation is changing is evident in the growing number of qualitative

studies published in mainstream IS journals. This reflects both an increase in the number of doctoral students employing such methods and the changing attitude about the acceptance of these methods.

But the change in Ph.D. programs does little to help those who are beyond that stage of their careers. These individuals must develop skills with qualitative methods by other means. In response to this need, books have been written (Lee et al., 1997; Mumford et al., 1985; Nissen et al., 1991), journals that actively encourage qualitative research have been established,[9] special issues of IS journals have been devoted to articles employing qualitative methods[10], and the "Qualitative Research in Information" section of ISWorld was developed.[11] Through the growing body of literature that illustrates and explains various qualitative methods for the conduct of IS research, IS scholars are helping to enhance researchers' skill in the use qualitative methods.[12] Finally the peer review process of journals is being used to help researchers increase their understanding of qualitative research methods. In the case of our positivist/interpretive GSS study, the role of the review process in helping us to develop our work is documented in Lee (1999).

Academic Politics

The final factor influencing the choice of qualitative methods for information systems research that I will discuss relates to the norms and values of the IS field, the institution at which one works and the status that one holds there, and the country in which that institution is located. These all serve to influence the choice of qualitative methods for IS research. Factors such as the country in which one works, one's status in the profession — whether one has completed the Ph.D., whether one has a tenured position, and one's academic rank — and the particular inclinations of the university at which one works all influence the choice of research methods.

The norms and values of the field are expressed in a variety of ways, and are reinforced during one's education and beyond. What is taught in research methods seminars sets the standard for "acceptable" research. Later, through advice to junior faculty, peer review of journal articles and the tenure review process, adherence to those norms and values is enforced. In a very real sense, then, journal editors and reviewers, department chairs, and others in positions of authority in the IS field serve as methodological gatekeepers.

In a review of predominately American IS research in the 1980s Orlikowski and Baroudi (1991) argued that information systems research was being guided by a dominant, positivist worldview that sanctioned methodologies consistent with a positivist research perspective. Fitzgerald and Howcroft (1998) tell two compelling "tales" to illustrate the polarization of positions into "hard" and "soft" perspectives. But their contribution to understanding this factor goes beyond the clarity they bring to the positions; they also offer suggestions for bridging the gap between the two extreme positions. Klein and Myers (1999) also contribute to closing the epistemological divide. By developing a set of principles for conducting and evaluating interpretive field studies, they offer a concrete response to positivists' complaint that "anything goes" in interpretive research.

ORGANIZATION OF THE BOOK

In the previous section I considered some of the factors influencing the choice of qualitative methods for IS research. The issues that accompany this choice are at the core of this book. These issues arise at both the individual and the professional levels within the IS field. Eleanor Wynn provides a textured background for the consideration of specific issues by discussing past and future trends in the use of qualitative methods. She writes from her experiences not only in conducting qualitative research, but also from her experiences as an editor of a leading IS journal that publishes qualitative IS research.[13] Like all the chapters in this book, this chapter employs examples from actual research projects to illustrate the trends. This chapter provides the reader with a sense of the whole about the implications of the choice of qualitative research methods for information systems research.

The remaining chapters in the book focus on issues related to the actual use of specific qualitative research methods. The discussion of issues that result from the choice of qualitative research methods is presented on two levels. Chapters by Enid Mumford, Ulrike Schultze, Cathy Urquhart, Dubravka Cecez-Kecmanovic, and Steve Sawyer address issues at the individual level of analysis. Drawing upon their own experiences in using a particular method in a particular project, they discuss concrete issues associated with the choice of a particular research methodology.

The authors provide examples from actual research projects they have conducted in order to illustrate the issues at hand. The objective is to have the reader come away with a general understanding of what the method is, why someone would want to use it, and issues that are associated with using it. Overall, the reader gets a good sense of what it would be like to employ the method being discussed.

To facilitate learning, each chapter has a consistent format. Following an introduction to the particular research method, the chapter raises issues within the context of a particular research study that has employed that particular method. These are issues encountered in the conduct of the research or in the publication of the results. It is expected that an independent learner could read the chapter and develop a better understanding about the *actual use* of the method; participants in a seminar course could use this chapter as the basis for a rich class discussion.

The three chapters by Richard Baskerville, Heinz Klein and Michael Myers, and Allen Lee address issues associated with the choice of qualitative methods at the level of the IS profession. Baskerville examines a particular methodology from the point of view of professional risks associated with choosing it. In doing so, he also raises some issues that are applicable to qualitative research in general. Klein and Myers address the issue of developing a cumulative tradition in qualitative IS research. Through this cumulative tradition, they argue, qualitative IS research will more easily deepen and diversify. Lee draws upon his own research as well as his experience as an IS journal editor[14] in looking toward the future. He presents challenges for the IS research community that suggest future trends in qualitative IS research.

In the final chapter of the book, I draw from the issues and trends that are presented in this book to generate lessons learned about using qualitative methods in the conduct of information systems research. These lessons relate both to the choice of a given method and to the development of the IS field. Consequently, these lessons should be heard by both individual IS researchers and the IS profession.

CONCLUSION

In this chapter I explored the rationale for producing this book, and explained what motivated it and why it is being written. I also suggested factors that are influencing the choice of qualitative methods. Finally, I explained the organization of this book. The acceptance of qualitative methods for the conduct of IS research — particularly in the United States — is a product of the 1990s. Although qualitative scholars can still encounter difficulty in getting their work published in certain journals, there is a growing consensus that qualitative methods constitute a much needed approach to the study of information systems. The problem is that there have not been enough examples of research employing qualitative methods. In fashioning a research design, researchers want to look to examples that are similar to their own. In addition, there is a need for more in-depth discussion of the various types of qualitative IS research so that researchers can determine which methods are most appropriate to their particular research questions. It is for these reasons that this book has been written.

REFERENCES

Ang, S. and Endeshaw, A. (1997). Legal Case Analysis in IS Research: Failures in Employing and Outsourcing for IT Professionals. In A.S. Lee, J. Liebenau, and J.I. DeGross (Eds.), *Information Systems and Qualitative Research* (pp. 497-523). London: Chapman & Hall.

Benbasat, I., Goldstein, D.K. and Mead, M. (1987). The Case Research Strategy in Studies of Information Systems. *MIS Quarterly,* 11(3), 369-386.

Bentley, R., Hughes, J.A., Randall, D., Rodden, T., Sawyer, P., Shapiro, D. and Sommeville, I. (1992). Ethnographically-informed Systems Design for Air Traffic Control. In J. Turner and R. Kraut (Eds.), *Sharing Perspectives: Proceedings of ACM Conference on Computer-supported Cooperative Work* (pp.123-129). New York: ACM Press.

Boland, R.J., Jr. (1991). Information System Use as a Hermeneutic Process. In H.-E. Nissen, H.K. Klein and R. Hirschheim (Eds.), *Information Systems Research: Contemporary Approaches & Emergent Traditions* (pp. 439-458). Amsterdam: North-Holland.

Boland, R.J. (1985). Phenomenology: A Preferred Approach to Research on Information Systems. In Mumford, E., Hirschheim, R.A., Fitzgerald, G. and WoodHarper, T. (Eds.), *Research Methods in Information Systems* (pp.193-201). Amsterdam: NorthHolland.

Boudreau, M-C. (1997). A Report from 8.2 to ICIS: Observations and Lessons on Qualitative Research in IS from the June 1997 Conference of IFIP Working Group 8.2 — The Newcomer's View. Panel

Presentation at the International Conference on Information Systems, Atlanta, GA, December.

Butler, T. (1998). Towards a Hermeneutic Method for Interpretive Research in Information Systems. *Journal of Information Technology*, Special Issue on Interpretive Research in Information Systems, 13(4), 285-300.

Chua, W.F. (1986). Radical Developments in Accounting Thought. *The Accounting Review*, 61, 601-632.

Davidson, E.J. (1997). Examining Project History Narratives: An Analytic Approach. In A.S. Lee, J. Liebenau, and J.I. DeGross (Eds.), *Information Systems and Qualitative Research* (pp. 123-148). London: Chapman & Hall.

Doolin, B. (1998). Information Technology as Disciplinary Technology: Being Critical in Interpretive Research on Information Systems. *Journal of Information Technology*, Special Issue on Interpretive Research in Information Systems, 13(4), 301-312.

Eisenhardt, K.M. (1989). Building Theories from Case Study Research. *MIS Quarterly*, 14(4), 532-550.

Fitzgerald, B. and Howcroft, D. (1998). Towards Dissolution of the IS Research Debate: From Polarization to Polarity. *Journal of Information Technology*, Special Issue on Interpretive Research in Information Systems, 13(4), 313-326.

Fransman, M. (1995). *Japan's Computer and Communications Industry*. Oxford: Oxford University Press.

Galliers, R.D. and Land, F.F. (1987). Choosing Appropriate Information Systems Research Strategies. *Communications of the ACM*, 30(11), 900-902.

Gallivan, M.J. (1997). Value in Triangulation: A Comparison of Two Approaches for Combining Qualitative and Quantitative Methods. In A.S. Lee, J. Liebenau, and J.I. DeGross (Eds.), *Information Systems and Qualitative Research* (pp. 417-443). London: Chapman & Hall.

Gopal, A. and Prasad, P. (2000). Understanding GDSS in Symbolic Context: Shifting the Focus from Technology to Interaction. *MIS Quarterly*, Special Issue on Intensive Research, 24(3), 509- 546.

Heaton, L. (1998). Talking Heads vs. Virtual Workspaces: A Comparison of Design Across Cultures. *Journal of Information Technology*, Special Issue on Interpretive Research in Information Systems, 13(4), 259-272.

Heeks, R. (1996). *India's Software Industry*. New Delhi: Sage.

Kaarst-Brown, M.L. (1997). A Report from 8.2 to ICIS: Observations and Lessons on Qualitative Research in IS from the June 1997 Conference of IFIP Working Group 8.2 — My View as an Assistant Professor. Panel Presentation at the International Conference on Information Systems, Atlanta, GA, December.

Kaplan, B. and Duchon, D. (1988). Combining Qualitative and Quantitative Methods in Information Systems Research: A Case Study. *MIS Quarterly*, 12(4), 571-586.

Kelly, T. (1987). *The British Computer Industry*. London: Croom Helm.

Klein, H.K. and Myers, M.D. (1999). A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly*, Special Issue on Intensive Research, 23(1), 67-93.

Komito, L. (1998). Paper 'Work' and Electronic Files: Defending Professional Practice. *Journal of Information Technology*, Special Issue on Interpretive Research in Information Systems, 13(4), 235-246.

Lee, A.S. (1999). Editors Comments: The Role of Information Technology in Reviewing and Publishing Manuscripts at *MIS Quarterly*. *MIS Quarterly*, 23(4), iv-ix.

Lee, A.S. (1994). Electronic Mail as a Medium for Rich Communication: An Empirical Investigation Using Hermeneutic Interpretation. *MIS Quarterly*, 18(2), 143-157.

Lee, A.S. (1991). Integrating Positivist and Interpretive Approaches to Organizational Research. *Organization Science*, 2(4), 342-365.

Lee, A.S. (1989). A Scientific Methodology for MIS Case Studies. *MIS Quarterly*, 13(1), 33-50.

Lee, A.S., Liebenau, J. and DeGross, J.I. (Eds.). (1997). *Information Systems and Qualitative Research*. London: Chapman & Hall.

Luzio, E. (1996). *The Microcomputer Industry in Brazil*. Westport, CT: Praeger.

Markus, M.L. (1983). Power, Politics, and MIS Implementation. *Communications of the ACM*, 26(6), 430-444.

Markus, M.L. (1997). The Qualitative Difference in Information Systems Research and Practice. In A.S. Lee, J. Liebenau, and J.I. DeGross (Eds.), *Information Systems and Qualitative Research* (pp. 11-27). London: Chapman & Hall.

Mumford, E., Hirschheim, R.A., Fitzgerald, G. and WoodHarper, T. (Eds.). (1985). *Research Methods in Information Systems.* Amsterdam: North-Holland.

Myers, M.D. (1997). Critical Ethnography in Information Systems. In A.S. Lee, J. Liebenau, and J.I. DeGross (Eds.), *Information Systems and Qualitative Research,* (pp. 276-300), London: Chapman & Hall.

Nelson, K.M., Nadkarni, S., Narayanan, V.K., Ghods, M. (2000). Understanding Software Operations Support Exerptise: A Revealed Causal Mapping Approach. *MIS Quarterly*, Special Issue on Intensive Research, 24(3), 475-507.

Ngwenyama, O.K. and Lee, A.S. (1997). Communication Richness in Electronic Mail: Critical Social Theory and the Contextuality of Meaning. *MIS Quarterly,* 21(2), 145-167.

Nissen, H.-E., Klein, H.K. and Hirschheim R. (Eds.). (1991). *Information Systems Research: Contemporary Approaches and Emergent Traditions.* Amsterdam: North-Holland.

Orlikowski, W.J. (1993). CASE Tools as Organizational Change: Investigating Incremental and Radical Changes in Systems Development. *MIS Quarterly*, 17(3), 309-340.

Orlikowski, W.J. (1991). Relevance versus Rigor in Information Systems Research: An Issue of Quality — The Role of Institutions in Creating Research Norms, Panel Presentation at the IFIP TC8/WG 8.2 Working Conference on the Information Systems Research Challenges, Perceptions and Alternative Approaches, Copenhagen, Denmark.

Orlikowski, W.J. and Baroudi, J.J. (1991). Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research*, 2(1), 1-28.

Paré, G. and Elam, J.J. (1997). Using Case Study Research to Build Theories of IT Implementation. In A.S. Lee, J. Liebenau, and J.I. DeGross (Eds.), *Information Systems and Qualitative Research* (pp. 542-568). London: Chapman & Hall.

Phillips, D. (1998). The Social Construction of a Secure, Anonymous Electronic Payment System: Frame Alignment and Mobilization Around Ecash. *Journal of Information Technology*, Special Issue on Interpretive Research in Information Systems, 13(4), 273-284.

Sayer, K. (1998). Denying the Technology: Middle Management Resistance in Business Process Re-engineering. *Journal of Information Technology*, Special Issue on Interpretive Research in Information Systems, 13(4), 247-258.

Schultze, U. (2000). A Confessional Account of an Ethnography about Knowledge Work. *MIS Quarterly,* Special Issue on Intensive Research, 24(1), 1-39.

Trauth, E.M. (1997a). Achieving the Research Goal with Qualitative Methods: Lessons Learned along the Way. In A.S. Lee, J. Liebenau, and J.I. DeGross (Eds.), *Information Systems and Qualitative Research* (pp. 225-245). London: Chapman & Hall.

Trauth, E.M. (1979). *An Adaptive Model of Information Policy.* Ann Arbor, MI: University Microfilms.

Trauth, E.M. (2000b). *The Culture of an Information Economy: Influences and Impacts in the Republic of Ireland.* Dordrecht, The Netherlands: Kluwer Academic Publishers.

Trauth, E.M. (1993). Educating Information Technology Professionals for Work in Ireland: An Emerging Post-industrial Country. In M. Khosrowpour and K. Loch (Eds.), *Global Information Technology Education: Issues and Trends* (pp. 205-233). Harrisburg, PA: Idea Group Publishing.

Trauth, E.M. (1996). Impact of an Imported IT Sector: Lessons from Ireland. In E.M. Roche and M.J. Blaine (Eds.), *Information Technology Development and Policy: Theoretical Perspectives and Practical Challenges* (pp. 245-261). Aldershot, UK: Avebury Publishing Ltd.

Trauth, E.M. (1986). An Integrative Approach to Information Policy Research. *Telecommunications Policy*, 10(1), 41-50.

Trauth, E.M. (1999). Leapfrogging an IT Labor Force: Multinational and Indigenous Perspectives. *Journal of Global Information Management*, 7(2), 22-32.

Trauth, E.M. 1997(b). A Report from 8.2 to ICIS: Observations and Lessons on Qualitative Research in IS from the June 1997 Conference of IFIP Working Group 8.2 — A Senior Perspective. Panel Presentation at the International Conference on Information Systems, Atlanta, GA December.

Trauth, E.M. (1995). Women in Ireland's Information Industry: Voices from Inside. *Eire-Ireland,* 30(3), 133-150.

Trauth, E.M., Huntley, J., and Pitt, D.C. (1991). The Implementation Game: Deregulating U.S. Telecommunications. In T. Younis (Ed.), *Policy Implementation in Public Administration,* (pp. 103-113), Aldershot, UK: Dartmouth Publishing Co., Ltd.

Trauth, E.M. and Jessup, L. (2000). Understanding Computer-mediated Discussions: Positivist and Interpretive Analyses of Group Support System Use. *MIS Quarterly*, Special Issue on Intensive Research, 24(1), 43-79.

Trauth, E.M. and O'Connor, B. (1991). A Study of the Interaction Between Information Technology and Society: An Illustration of Combined Qualitative Research Methods. In H.-E. Nissen, H.K. Klein and R. Hirschheim (Eds.), *Information Systems Research: Contemporary Approaches & Emergent Traditions* (pp. 131-144). Amsterdam: North-Holland.

Trauth, E.M. and Pitt, D.C. (1992). Competition in the Telecommunications Industry: A New Global Paradigm and Its Limits. *Journal of Information Technology*, 7(1), 3-11.

Trauth, E.M., Trauth, D.M., and Huffman, J.L. (1983). Impact of Deregulation on Marketplace Diversity in the USA. *Telecommunications Policy*, 7(2), 111-120.

Van Maanen, J. (1979). Reclaiming Qualitative Methods for Organizational Research: A Preface. *Administrative Science Quarterly*, 24, 520-526.

Walsham, G. (1995a). The Emergence of Interpretivism in IS Research. *Information Systems Research,* 6(4), 376-394.

Walsham, G. (1995b). Interpretive Case Studies in IS Research: Nature and Method. *European Journal of Information Systems,* 4, 74-81.

Walsham, G. and Sahay, S. (1998). GIS for District-Level Administration in India: Problems and Opportunities. *MIS Quarterly,* Special Issue on Intensive Research, 23(1), 39-65.

ACKNOWLEDGMENTS

This chapter has benefited from the insightful comments and suggestions by Yang Lee, Steve Sawyer and Ulrike Schultze.

ENDNOTES

1 See, for example, Fransman (1995), Heeks (1996), Kelly (1987) and Luzio (1996).

2 It is important to point out that "qualitative" and "interpretive" are not equivalent terms. As will be illustrated in this chapter, qualitative methods can be used not only for interpretive and critical research but also for positivist research.

3 The examples most commonly used in the methodology books I consulted came from the fields of sociology and education.

4 The purpose of Trauth (1997a) was to contribute to this effort.

5 While it is understood that this book has an international audience, the reflexive style in which this chapter is written causes me to speak primarily about the status of qualitative research methods in the United States, the country in which I received my education and where I engage in my profession.

6 Gopal and Prasad (2000) had similar results.

7 These methodological considerations are discussed in Trauth (2000b) and Trauth and O'Connor (1991).

8 See also Schultze (2000) for further discussion of this research project.

9 The two most prominent IS journals publishing qualitative research are *Information and Organization* (formerly *Accounting, Management and Information Technologies*) and *Information Technology and People.*

10 Two recent special issues of journals that have focused on qualitative methods for information systems research are: *Journal of Information Technology*, Volume 13, Number 4 (December 1998), Special Issue on Interpretive Research in Information Systems; and *MIS Quarterly* Volume 23, Number 1 (March 1999), Volume 24, Number 1 (March 2000), and Volume 24, Number 3 (September 2000), Special Issue on Intensive Research.

11 It is located at: www.auckland.ac.nz/msis/isworld.

12 Examples are Walsham's (1995b) paper on interpretive case studies, Butler's (1998) paper on hermeneutic research in information systems, and Nelson et al.'s (2000) paper on revealed causal mapping methodology.

13 At the time of this writing, Wynn is editor-in-chief of *Information Technology and People.*

14 At the time of this writing, Lee is editor-in-chief of *MIS Quarterly.*