Qualitative Methods in IS Research

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INTRODUCTION

As information technologies have evolved, so too has our understanding of the information systems that employ them. A significant part of this evolving understanding is the role of the human contexts within which information systems are situated. This, in turn, has led to the need for appropriate methods of studying information systems in their context of use. Just as decisions about information systems need to be considered within their contexts of use, so also do choices about the appropriate research methodologies to employ for studying them. Increasingly, qualitative methods are chosen as an appropriate method for studying contextual aspects of information systems development, use and impact.

Qualitative research refers to research methods that engage in the interpretation of words and images rather than the calculation of numbers. These methods include: ethnography, case study, action research, interviews, and text analysis (i.e., conversation analysis, discourse analysis, and hermeneutics). Qualitative research can be theory-driven in much the same way as quantitative analysis. However, it can also employ grounded theory techniques in order to develop theory (Glaser & Strauss, 1967).

Following some early uses of qualitative methods in the 1980s (e.g., Benbasat et al., 1987; Kaplan & Duchon, 1988; Lee, 1989; Mumford et al., 1985), there has been a significant growth in the use of qualitative methods for information systems research since the 1990s (e.g., *Journal of Information Technology*, 1998; Lee et al., 1997; *MIS Quarterly*, 1999, 2000; Nissen et al., 1991; Trauth, 2001).

Accompanying the increased use of qualitative methods for IS research has been a discussion of various methodological issues. Among the key aspects of this dialogue are discussions about the suitability of qualitative methods for various types of research and issues arising from a particular type of qualitative methods: interpretive methods. This article presents a reflection on some these discussions in the form of a consideration of five factors that can influence the choice of qualitative (particularly interpretive) methods for information systems research.

FACTORS INFLUENCING THE DECISION

The Research Problem

The research problem, *what* one wants to learn, should determine *how* one goes about learning it. Heaton (1998) chose observation, interview and document analysis to examine the social construction of computer-supported cooperative work in two different cultures in order to learn how the meaning of "culture" was reflected in the design of systems. Trauth (2000) used ethnographic methods to explore the influence of socio-cultural factors on the development of a nation's information economy. Bentley et al.'s (1992) ethnographic study of the work practices of air traffic controllers informed their design of an interface to an air traffic control database. Walsham and Sahay (1999) conducted extensive interviews to gain an in-depth understanding of the implementation of geographical information systems for administrative applications in India. Phillips (1998) employed public discourse analysis to reveal the way in which concerns about anonymity, surveillance, and privacy are integrated into public understanding of a consumer payment system.

The Epistemological Lens

Orlikowski and Baroudi (1991) considered the influence of the epistemological lens – positivist, interpretive or critical – on the conduct of IS research. While there is some positivist, qualitative IS research (e.g., Lee 1989), most qualitative IS research is either interpretive or critical because of the assumption that "our knowledge of reality is a social construction by human actors" that precludes obtaining objective, value-free data (Walsham, 1995, p. 376). The interpretive epistemology has also spawned IS research employing hermeneutic methods (e.g., Boland, 1985, 1991, and Trauth & Jessup, 2000). Ngwenyama and Lee (1997) used the critical lens to examine information richness theory.

The Uncertainty Surrounding the Phenomenon

According to Galliers and Land (1987), the added complexity from including relations with people and organizations in a view of information systems introduces greater imprecision and the potential for multiple interpretations of the same phenomenon. Hence, alternatives to quantitative measurement are needed. Others argue that the less that is known about a phenomenon the more difficult it is to measure it. Benbasat et al. (1987) explained that the case study approach is appropriate for IS research areas in which few previous studies have been carried out. Paré and Elam (1997) built theories of IT implementation using case study methods. Orlikowski's (1993) rationale for choosing qualitative methods and grounded theory to study the adoption of CASE tools rested on the absence of systematic examination of the organizational changes accompanying the introduction of CASE.

The Researcher's Skills

The absence of formal study of qualitative methods may serve as a barrier to choosing these methods. Orlikowski (1991) suggested that institutional conditions have inhibited the teaching of qualitative methods because of the functionalist/positivist perspective of American business schools where IS is typically taught. These institutional conditions, within which doctoral studies are conducted and dissertations are written, have inhibited the use of alternative research paradigms and methodologies with long-term implications for the choice of methods used in IS research. Schultze's (2001) reflection on her decision to choose interpretive methods for her dissertation illustrates the importance of institutional influence. Exposure to advisors with expertise in interpretive methods gave her methodological opportunities not available to other students.

The Academic Politics

The choice of research methods is influenced by the country in which one works, whether one has completed the PhD, whether one has a tenured position, one's academic rank, and the particular inclinations of the university at which one works. The norms and values of the field are reinforced during one's education and beyond. What is taught in research methods seminars sets the standard for "acceptable" research. Advice to junior faculty, peer review of journal articles and the tenure review process all reinforce those norms and values. Fitzgerald and Howcroft (1998) described the polarization of positions into "hard" and "soft" perspectives. Klein and Myers (1999) contributed to closing this methodological divide by developing a set of principles for conducting and evaluating interpretive field studies.

FUTURE TRENDS

As our understanding of the context of information systems grows, our desire to understand and explain contextual factors will motivate researchers to explore new ways to employ qualitative methods. Therefore, we can expect greater use of the critical epistemological lens in the use of qualitative methods in IS research. We can also expect to see the increased use of *virtual* qualitative research methods. That is, the traditional face-to-face methods of data generation used in qualitative research will find increasing analogues in the virtual world. We can expect to see, for example, "virtual ethnographies," "virtual participant observation" and "online interviews".

CONCLUSION

The primary advantage of using qualitative, particularly interpretive, methods is the flexibility it affords the researcher during data generation and analysis. The main disadvantage of qualitative, particularly interpretive, methods is overcoming concerns about validity and generalization of findings. The concepts of both statistical validity and statistical generalization need to be redefined for qualitative research. The *MIS Quarterly* "Special Issue on Intensive Research" has addressed the validity issue by publishing exemplar research papers that provide evaluative criteria for other researchers to use in establishing validity. The generalizability issue is being addressed in thoughtful pieces such as the recent article by Lee and Baskerville (2003).

Despite these issues, the acceptance of qualitative methods for IS research is evidence of a growing consensus that these methods make a valuable contribution to the study of information systems in context. In making the decision to use qualitative methods a number of factors must be taking into consideration. These factors relate to the characteristics of the research problem, the researcher and the research environment.

REFERENCES

Benbesat, I., Goldstein, D.K., & Mead, M. (1987). The case research strategy in studies of information systems. *MIS Quarterly, 11*(3), 369-386.