12-31-1995

Two Techniques for Qualitative Data Analysis: Computer-Based Analysis Tools

Brian Pentland
Michigan State University

Sajda Quershi
COMNET-IT

Elaine Yakura
Michigan State University

Follow this and additional works at: http://aisel.aisnet.org/icis1995

TWO TECHNIQUES FOR QUALITATIVE DATA ANALYSIS: COMPUTER-BASED ANALYSIS TOOLS

Brian Pentland
Michigan State University, USA

Sajda Quershi
COMNET-IT, USA

Elaine Yakura
Michigan State University, USA

Numerous innovative techniques for qualitative data analysis have been emerging and gaining consideration and acceptance in IS research. Among these are analytic induction, hermeneutics, ethnography, participant observation, content analysis, grounded theory, case studies and action research.

Previous years' workshops have dealt with these basic techniques, each of which depends on the analysis of potentially large quantities of textual information in the form of field notes, interview notes, and archival sources. With the widespread availability (and increasing affordability) of portable computers, field researchers are increasingly putting their notes in electronic format. Furthermore, archival data of various kinds is increasingly available on-line (in the form of electronic mail, Notes databases, etc.). More than ever, qualitative researchers can be easily overwhelmed with data. Fortunately, a variety of tools are becoming commercially available for the analysis of qualitative, textual data. The question is, how can these new computer-based tools best be applied to the analysis of increasing volumes of qualitative data? What are the strengths and weaknesses of the available tools? What are the pitfalls and how can researchers avoid them?

This year's workshop will address these questions with two presentations on the use of computer-based tools for qualitative analysis. As in previous years, the long range purpose of the current workshop is to help participants acquire some "how to" skills that they can try out at home on their own research projects. The workshop will also prove very useful for those who must review qualitative projects and make recommendations for improvements in the analysis and reporting. We will conduct the session as a workshop, giving descriptions of each technique and providing a "walk through" of the techniques in one or two examples (using actual research studies as illustrations). The examples will be selected to illustrate different facets of the technique, to identify special issues in using the technique with IS subject matter, and to elucidate the technique's contributions to IS research.

Brian Pentland will begin the session by briefly describing the underlying motivation for the use of computer-based tools for qualitative analysis in IS research. He will then introduce the two workshop presenters.

Sajda Qureshi will discuss the use of qualitative data analysis as a "systemic" approach to understanding the interaction of variables in a complex environment. The use of computers to aid qualitative data analysis presents itself as a means of adding power and sensitivity to individual judgment. It facilitates the interpretive researcher in describing patterns in a set of observations, extracting meaning and identifying causal relations. In this, the issue is one of knowing when it is useful to use computers for qualitative data analysis and when it is difficult or inappropriate.

Qureshi will present examples of specific tools that can be used to facilitate the interpretation of data and its analysis. Some of the software available and the ways in which it may be used will be introduced focusing in particular on capabilities for data linking, content analysis and data display. In drawing upon her own research, Qureshi will talk about the need for tools for qualitative data analysis

that provide the researcher with the descriptive power of quantitative tools and enable the interpretive researcher to arrive at generalizable conclusions. She will talk about a qualitative data analysis tool she developed for the purpose of analyzing patterns of behavior on electronic group meetings.

Elaine Yakura will address the problems that researchers face when confronted with large volumes of field notes. Her two and a half year study of information technology consultants resulted in thousands of pages of textual materials. Field researchers often generate similar volumes of data and need to find methods for systematically analyzing it. The increased availability of computer-based tools provides an obvious opportunity, but it is not without drawbacks.

Yakura will focus her presentation on a particular tool that is gaining increasing acceptance in the qualitative research community. She will demonstrate the use of Nudist, a Macintosh-based tool for qualitative data analysis. She will show the basic features of the tool as applied to the analysis of her own data. She will use this example as a way of exploring the strengths and weaknesses of computer-based qualitative analysis.