# Scholarship and practice: the contribution of ethnographic research methods to bridging the gap

Lynda J. Harvey

*Harvey Strategic Information Management, Sydney, Australia, and*

Michael D. Myers

*Department of Management Science and Information Systems, University of Auckland, Auckland, New Zealand*

## Introduction

Research methods are the means by which knowledge is acquired and constructed within a discipline. Research methods need to be both relevant and rigorous in order to be accepted as legitimate within a particular field of knowledge. Information systems (IS) is a field which has multiple stakeholders in its knowledge development, operating in contexts which have to deal with multiplicity, cross-linkage, diversity and continually emerging changes, demanding integration as a key perspective. The diversity needs to be applauded rather than denied, even in the customarily slow-to-change world of research.

The stakeholders in IS research include scholars, practitioners, educationists, users, politicians, economists and citizens (present and future). In this article, the authors concentrate on the conflicts of objectives between scholars and practitioners as stakeholder groups in IS research, looking at how the differences exposed can show areas of potential integration and can point the way to choosing both relevant and rigorous research methods. It is an assumption of this article that there is a gap between the process of knowledge generation conducted by researchers and that conducted by practitioners. The authors seek to show how ethnography provides the principles to support both groups, hence bridging the gap. The purpose of the article is to show how ethnographic research methods can generate knowledge which is useful to both practice and scholarship.

## Scholarly and practical knowledge

Lyotard argues that the knowledge game is a social process whereby discourses develop to segregate legitimate and non-legitimate frameworks for action (Lyotard, 1984; Lyotard and Thebaud, 1985). Within any discipline there are likely to be a variety of such discourses, displaying conflicts between the expressed languages of the discourses even though the content may seem very similar. These differences are a critical way of strengthening alternative views, but they can create problems in reconciling the surface differences against the deeper consensus of beliefs and meanings (Lyotard, 1988). According to Lyotard, the surface differences can create barriers to shared actions between groups holding different discourses even though they may share deeper common concerns, leading to social reality differences which negate collaboration. Anyone taking a critical perspective to knowledge contribution needs to expose the surface differences, in a self-critical manner, so that any shared common concerns can emerge and a new consensual discourse can be allowed to develop.

In the knowledge field called information systems research, the surface discourses of the stakeholder groups of scholars and practitioners appear to be disparate. Scholars are expected to be concerned with the development of knowledge which is generalizable (i.e. knowledge which is, in principle, a-contextual and a-historical), while practitioners are concerned with the development of knowledge which is immediately usable in specific problem contexts. However, analysis of the practical discourses of both stakeholder groups shows more similarities than differences.

Scholars are primarily concerned with developing knowledge that can be defended as "true" knowledge; scholarly research needs to be able to justify the validity of accepted approaches to data collection and analysis. Validity is really a word for the standardization of quality across a particular interest group, it is a key sign in the legitimation of knowledge practices. In practitioners' discourses, validity is also a major concern but it is not named as such, rather it is named "quality control". Although practitioners are not a unified body (since the term includes a broad range of job descriptions), all IS practitioners need to be confident that information generated is based on sound knowledge. In order to accomplish this, principles are applied to the procedures whereby information is gathered and the knowledge bases are challenged. Just as any scholar neglects the challenge of validity at her/his peril, any IS practitioner who supplies a client with invalid data or with information from a poor quality knowledge source is likely to suffer.

Scholars in the IS field are characteristic in that they must be concerned to generate valid knowledge which can, at least in principle, be informative to practice. Scholars in IS are expected to substantiate their contributions to practical knowledge by showing which contextual areas can benefit. Likewise, any practitioner is expected to justify their knowledge-seeking and generation activities against measures of the practicability of outputs.

In the field of IS, the areas of research concern are delineated in such a way as to reflect practical areas of development. For example, information systems analysis is separated as a research area from IS applications. Information systems design is separated into software design practices, database design and development practices, human computer interface design areas, and systems configuration areas of concern. Information systems development looks more towards the use of tools and methodologies for controlling IS development practices and the building of information systems hardware and software objects, considering the importance of creating a "fit" with their social and cultural institutional contexts. Clearly, the actual definition of IS research areas reflects the applied, practical nature of the discipline. There is little research which looks at the nature of systems of information *per se*; IS research is almost always justified in terms of the way in which it helps to aid the understanding of IS practice.

As a research field, then, IS research displays a fundamental moral order relating to IS practice. Such a moral order affects the legitimation act of naming and accepting particular research approaches (Foucault, 1972), where IS researchers have to show where their research fits and how their research has practical implications. Paradoxically, however, the actual discourse practised is not obviously akin to that shared by practitioners. The discourse of IS researchers concentrates more on research methods which lean towards the language of positivism (Orlikowski and Baroudi, 1991), thus rendering the voice of the practitioner less legitimate and making more invisible the knowledge generated by the practitioners (see Foucault, 1970, for a discussion of invisibility and legitimation).

The indications are that the scholars of the IS discipline are in conflict with their own moral order in their adoption of the language of positivism when dealing with the issues pursued in their research, issues shared with the practitioners in IS. The language of positivism is applied to the scrutinization of research practices, through the domain of research methods and their application to research questions. This article argues that a more appropriate consideration of research methods can dispel some of the conflicts in the moral order of IS researchers, allowing for the development of knowledge generation approaches which are appropriate to both scholars and practitioners.

The article proceeds as follows. The next section looks at current IS research practices in their historical context, showing how the argument for methodological pluralism has come to the fore. Qualitative research approaches are then discussed, looking at the approaches as creators of an alternative discourse, alternative to but not contradictory to that shared by the classically scientific research approaches. The following section looks at ethnography as a particular form of qualitative research. The critical hermeneutic approach to ethnography is discussed in relation to its usefulness for both scholars and practitioners as a means by which they can realistically justify their knowledge outputs. Next, the contribution of ethnography to IS research is discussed, both as an actual and as a potential method. Finally, the limitations of the

ethnographic research method are outlined, concluding with consideration of the need to bridge the gap between scholarly knowledge and practical knowledge in IS research.

## IS research practices

IS research practices need to be viewed in the light of their historical context. What was important as a concern in IS research a decade ago is now seen as less so, being overridden by other concerns. The output from IS research has consistently shown that it is the social and organizational contexts of information systems design, development and application which lead to the greatest practical problems (e.g. see Hirschheim and Newman, 1991; Newman and Robey, 1992; Walsham, 1993). The area has been consistently refined down through information systems research and this has led to the realization that all aspects of any information system have a highly complex, and constantly changing, social context. The complexity resulting from this realization has led to the need to develop richer theories of information systems as social objects but, as Hirschheim and Newman point out, many of the existing theories attempting to deal with this are "unfortunately, at an elementary stage of development" (Hirschheim and Newman, 1991, p.30).

In their literature analysis of the historical preferences for research methods in information systems research practices, Orlikowski and Baroudi (1991) found a clear preference for positivist research. This is a form of research discourse which depicts an a-historical and a-contextual view of information systems. As argued earlier, this is not easily mappable on to the practical knowledge development procedures of practitioners, which have a tendency to regard context and history as crucially important.

Despite the clear historical preference for information systems researchers to adopt a positivist view of knowledge generation, there is a growing recognition made of the need to temper the quasi-experimental forms of research with those which are more concerned with contextual analysis. For example, the area of decision support systems (DSS) has long been a central research topic in the information systems field. From the group decision support systems (GDSS) area, the computer-supported co-operative work (CSCW) area has developed and this area has openly embraced more contextual forms of research methods, alongside the quasi-experimental approaches.

For example, at the ACM 1992 Conference on CSCW (Turner and Kraut, 1992), there were many indicators of more qualitative research methods being adopted (e.g. Bentley *et al.*, 1992; Hughes *et al.*, 1992; Orlikowski, 1992). Similarly, for five years the International Conference on Information Systems (ICIS) has run panels or workshops dealing with qualitative techniques. It would seem that information systems researchers are becoming more accepting of the need to adopt techniques which consider the historical and contextual aspects of information systems. This has the potential for moving the discourses between knowledge workers who are scholars and knowledge workers who are practitioners closer together.

**Ethnography**

Arguments which put forward the need to consider context in research tend to support qualitative techniques (Lee, 1991; Orlikowski, 1991). However, there is an extremely broad range of qualitative techniques, ranging from anything that does not directly deal with numbers to the most in-depth and self-reflective interpretive techniques. Also, many qualitative techniques do make reference to numerical representations of the contextual elements under observation. There are many ways that the distinction between qualitative and quantitative can be contrived (Lee, 1991) and the referential differences tend to be seen more as epistemological shifts, often paradigmatic in nature (Galliers, 1985). But there is still one major difference which is of relevance to this article and that is the different ways in which context is treated.

In more traditional quantitative techniques, context is treated as either a set of interfering variables that need controlling, known as noise in the data, and other controlled variables which are experimentally set up in order to seek for cause and effect relationships. In the more traditional qualitative approaches, context is treated as the socially constructed reality of a named group, or groups, of social agents and the key task of observation and analysis is to unpack the webs of meaning transformed in the social process whereby reality is constructed. In quantitative techniques, cause and effect are the main objects being searched for, while, in qualitative techniques, meaning in context is the most important framework being sought.

Because context is crucial to qualitative observations and analyses, techniques which explore contextual webs of meaning are important. The main body of techniques fall under the domain of an approach called ethnography, which developed out of the social science called anthropology. After early ground-breaking work by Suchman (1987), Wynn (1979) and Zuboff (1988), ethnography has now become more widely used in the study of information systems in organizations, from the study of the development of information systems (Hughes *et. al.*, 1992; Orlikowski, 1991; Orlikowski and Robey, 1991; Preston, 1991) to the study of the use of information technology forms (Yates and Orlikowski, 1992), also including the study of aspects of information technology management (Davies, 1991; Davies and Nielsen, 1992). Ethnography has also been discussed as a method whereby multiple perspectives can be incorporated in systems design (Holzblatt and Beyer, 1993) and as a general approach to the wide range of possible studies relating to the investigation of information systems (Pettigrew, 1985). In the next two sections, the origins of ethnography in anthropology are briefly presented and then a particular form of ethnography which uses critical hermeneutics is discussed.

*The origins of ethnography*

The first anthropologist to adopt the ethnographic research method was Bronislaw Malinowski, who in 1922 published his now famous book *Argonauts of the Western Pacific*. This book was based on Malinowski's fieldwork among

the Trobriand Islanders. It is useful to understand why Malinowski adopted this approach (for more detail see Darnell, 1974; Kuper, 1973).

Before Malinowski, anthropologists had collected volumes of material from non-Western cultures and societies all around the world. However, despite this vast collection of material, very little of it made any sense to Western observers. The social and cultural practices in other cultures seemed strange and "primitive", if not frightening. An anthropologist would typically document a particular cultural practice (for example sorcery), and then try to explain it by comparison with other practices of the same kind in other cultures. Thus, Frazer's *The Golden Bough*, first published in 1890, was an encyclopaedic collection of various cultural practices from around the globe (Frazer, 1890).

Where Malinowski departed from previous researchers was in suggesting that cultural practices from other societies could only be understood by studying the context in which they took place. All previous research had simply taken various cultural practices out of context – and that is why they appeared strange. By learning the local language and living in a society for at least one or more years, by trying to understand the meaning of particular cultural practices in context, only then would other cultures and societies start to make sense to Western observers.

After Malinowski's lead, the ethnographic research method involving intensive fieldwork became established in anthropology as the dominant form of research. Anthropologists coined the term "ethnocentrism" to refer to the tendency of people in most cultures to think of their own culture as the best and most sensible. A good ethnography, however, was one which "sensitized" the reader to the beliefs, values, and practices of the natives in another society. If, after reading the ethnography, actions which were previously seen as absurd, strange or irrational "made sense", then that ethnography had achieved its purpose.

Today there is critical debate within anthropology concerning the ethnographic research method (Van Maanen, 1988). There are many different schools or views within anthropology about ethnographic interpretation. These views are relevant to the ethnographic study of information systems as they show the variety of approaches already being adopted within the source discipline. Although we are unable to discuss this critical debate within anthropology in depth, one of the landmark publications in this debate is Clifford and Marcus's (1986) work (see also Clifford, 1988; Marcus, 1992).

Sanday (1979) divides ethnography into the holistic, semiotic and behaviouristic schools of thought, and she further divides the semiotic school into thick description and ethnoscience. Each school of thought has a different approach to doing an ethnography. For example, most ethnographers of the holistic school say that empathy and identification with the social grouping being observed is needed; they insist that an anthropologist should "go native" and live just like the local people (e.g. Cohen, 1985; Evans-Pritchard, 1950). The assumption is that the anthropologist has to become like a blank slate in order

understand local social and cultural practices fully. The anthropologist acts like a sponge, soaking up the language and culture of the people under study.

On the other hand, Clifford Geertz, the foremost exponent of the "thick description" (semiotic) school, says that anthropologists do not need to have empathy with their subjects (Geertz, 1973; 1983; 1988). Rather, the ethnographer has to search out and analyse symbolic forms – words, images, institutions, behaviours – with respect to one another and to the whole that they comprise. Geertz argues that it is possible for an anthroplogist to describe and analyse another culture without having to empathize with the people. He says that anthropologists need to understand the "webs of significance" which people weave within the cultural context, and these webs of significance can only be communicated to others by thickly describing the situation and its context.

An alternative to the above is the adoption of a critical perspective on ethnographic research. For example, Forester (1992) used the critical social theory of Habermas in the development of an approach called critical ethnography. Forester used critical ethnography to examine the facetious figures of speech used by city planning staff to negotiate the problem of data acquisition. Myers (1987) used critical hermeneutics to illuminate the ethnographic research process in his study of the independence movement in the Melanesian nation of Vanuatu (see also Marcus and Fischer, 1986). The critical hermeneutic approach to ethnography, which we advocate, is discussed below.

*Critical hermeneutics*
Hermeneutics is the science of interpretation, concerned with analysis of the *meaning* of a text or text-analogue. The basic question in hermeneutics is "What is the meaning of a text?" (Radnitzky, 1970, p. 20). Taylor says that:

> Interpretation, in the sense relevant to hermeneutics, is an attempt to make clear, to make sense of an object of study. This object must, therefore, be a text, or a text-analogue, which in some way is confused, incomplete, cloudy, seemingly contradictory – in one way or another, unclear. The interpretation aims to bring to light an underlying coherence or sense (Taylor, 1976, p. 153).

The idea of a hermeneutic circle refers to the dialectic between the understanding of the text as a whole and the interpretation of its parts, in which descriptions are guided by anticipated explanations (Gadamer, 1976b, p. 117). As Gadamer explains, "It is a circular relationship… The anticipation of meaning in which the whole is envisaged becomes explicit understanding in that the parts, that are determined by the whole, themselves also determine this whole".

It follows from this that we have an expectation of meaning from the context of what has gone before. The movement of understanding "is constantly from the whole to the part and back to the whole" (Gadamer, 1976b, p. 117). Ricoeur points out that "Interpretation… is the work of thought which consists in

deciphering the hidden meaning in the apparent meaning, in unfolding the levels of meaning implied in the literal meaning" (Ricoeur, 1974, p. xiv).

Hermeneutics is used to explore the socially constructed contexts of institutions and organizations (Berger and Luckmann, 1967) and, as an approach to meaning analysis, it has been used in many disciplines, including education, medicine, anthropology, sociology and architecture (Vattimo, 1988). It has also been taken up by researchers in the information systems area (e.g. Boland, 1991; Lee, 1991; Winograd and Flores, 1987). The principles of hermeneutics have been applied to the analyses of the metaphorical nature of theories of information (Boland, 1987) and of systems development (Hirschheim and Newman, 1991). Hermeneutics is a recognized framework for the analysis of organizations (Bryman, 1989), in particular when looking at organizational culture (Frost *et al.*, 1985), and has been applied to the analysis of socio-technical interactions (Barley, 1986). This makes it a potentially important approach to the analysis of information systems in organizations.

There are different forms of hermeneutics, all concerned with the textual treatment of social settings, but not all concern themselves with reflective critique of the meaning of interpretations derived from textual analyses. The early hermeneuts such as Dilthey advocated a "pure hermeneutics" which stressed empathic understanding and the understanding of human action from the "inside". As Radnitzky points out, however, pure hermeneutics is uncritical in that it takes statements or ideologies at face value (Radnitzky, 1970, p. 20). He cites Gadamer as saying that "we don't have to imagine oneself in the place of some other person; rather, we have to understand *what* these thoughts or the sentences expressing them are *about*" (Radnitzky, 1970, p. 27).

More recently, critical hermeneutics has emerged following the debates between Habermas and Gadamer (Gadamer, 1976a; Myers, 1995; Ricoeur, 1976; Thompson, 1981). There is a potential tendency to view interpretation as a closed and exact form, but critical hermeneutics recognizes that the interpretive act is one which can never be closed as there is always a possible alternative interpretation (Taylor, 1976). In critical hermeneutics the interpreter constructs the context as another form of text, which can then, of itself, be critically analysed so that the meaning construction can be understood as an interpretive act. In this way, the hermeneutic interpreter is simply creating another text on a text, and this recursive creation is potentially infinite. Every meaning is constructed, even through the very constructive act of seeking to deconstruct, and the process whereby that textual interpretation occurs must be self-critically reflected on (Ricoeur, 1974).

Critical hermeneutics takes seriously the reflective critique of the interpretation applied by the researcher and so offers insights about how understanding takes place. As Myers (1994) points out, critical hermeneutics requires the researcher to become aware of his or her own historicality. This awareness of the dialectic between the text and the interpreter has been brought to the fore in contemporary hermeneutics. Classical or "pure" hermeneutics ignored this dialectic in the attempt to understand a text in terms of itself.

Adoption of the critical hermeneutic perspective leads to criticism of non-dialectical views of ethnographic research, such as those of the holistic school. Ethnographers of the holistic school, in their attempt to "go native" and understand other cultures "in their own terms", in effect deny the glossing of those views by the interpretive act of the analyst. The end result is tantamount to a recourse to objectivity due to a taking for granted of the need for the critical analysis of the dialectics of the interpretive process. The role of the observer is treated as context-free, ignoring the fact that every interpretive exploration leads to a new understanding, thus rendering history as the most vital attribute of ethnographic analysis, the history of the material and the history of the interpretation. Zuboff's study of computer-mediated work (Zuboff, 1988) took the dialectical process of historical critique as fundamental to the ethnographic work being carried out. She argued that "history would offer only a brief window of time during which such data could be gathered" (Zuboff, 1988; p. xiv).

The critical hermeneutic perspective leads to the recognition that any ethnography is a form of historiography. The critical ethnographer is essentially situated in history, the history of the situation and of the interpretation, and is also part of a wider set of social, economic and political relationships. One of the key tasks of a critical ethnographer is to be aware of the historical context in which research takes place and to reflect this critically on to the research process itself. In arguing for a reflexive anthropology, Kahn points out that the interpretation of culture(s) "is in fact part of a process of construction" and says that anthropologists themselves "are similarly part of a broader socio-historical process" (Kahn, 1989, p. 22; see also Scholte, 1972).

The hermeneutic-dialectic perspective openly recognizes that understanding of an institutional context is not gained by the researcher suspending her or his prejudices. Rather, the ethnographer is encouraged to become critically aware of them, making them explicit in the process of learning about cultural differences, a process not unlike the behaviour of practitioners who have to traverse a variety of sub-cultures within organizations (Orlikowski and Baroudi, 1991). This cultural bridging process is typically one attributed to systems analysts and business analysts in the information systems field, where they have to mediate between the users in the various business units and the more technically-oriented IS staff. This implies that the critical hermeneutic approach to ethnography also has great potential for helping this group of practitioners to conduct their work in an informed and rigorous manner (although a discussion of how critical ethnography could be used by IS and business analysts is beyond the scope of this article).

In the next two sections, the major contributions and limitations of this approach to information systems research are briefly explored.

**Contributions**

Ethnography offers a rigorous approach to the analysis of the institutional contexts of information systems practices, with the notion of context being one of the social construction of meaning frameworks. Ethnography, as a research

method, is well suited to providing information systems researchers with rich insights into the human, social and organizational aspects of information systems development and application. When the form of ethnography known as critical hermeneutics is used (although this is not the only one), the findings can be rigorously scrutinized to allow for a thorough analysis of the processes of information systems practices, thus supplementing the more traditional approaches which tend to concentrate on content rather than process.

Because ethnography deals with actual practices in real world situations, it allows for relevant issues to be explored and frameworks to be developed which can be used by both practitioners and researchers. It also means that researchers can deal with real situations instead of having to contrive artificial situations for the purpose of quasi-experimental investigations.

Knowledge of what happens in the field can provide vital information to challenge and explore some of the assumptions gained from a mainly experimental-based body of knowledge. For example, Suchman and Wynn (1984) found that office conversations are tied to evolving customs and practices which are not easily documented (see also Wynn, 1991). Hughes *et al.* (1992) showed how their ethnographic studies led them to question some widely-held assumptions about systems design. They found that the information provided by the ethnography provided a deeper understanding of the problem domain and that conventional principles normally thought of as a "good design" could be inappropriate for co-operative systems.

Contrary to the theoretical position of much of the IS research literature which assumes that information technology will transform existing bureaucratic organizational forms and social relations, Orlikowski's (1991) ethnographic research showed how the use of new information technology led to the existing forms of control being intensified and fused. Orlikowski's work highlights the complex and often contradictory ways in which such technologies can be used. Overall, ethnographic research such as Orlikowski's points our attention to the non-instrumental appropriation of IT systems, and their ultimate embeddedness in local workplace cultures.

Another reason for using ethnography to study actual practices in real world situations is that it enables a researcher to study organizations as the complex social, cultural and political systems that they are. A critical ethnographic analysis requires a researcher to consider many different perspectives: to look at the views of the various stakeholders in an organization and the real value conflicts that there may be, and to look at the objective social impacts which may result from the implementation of new information systems. Ethnographies can also show differences in how information technologies tend to be used in different contexts.

The use of ethnographic research methods means that opportunities which arise from contextual situations can be built on, instead of avoided. As Zuboff (1988) argues, a "window of opportunity" can be found to explore particular issues, for example where "people who are working with technology for the first time were ripe with questions and insights regarding the distinct qualities of

their experience" (Zuboff, 1988, p. 13). By applying a critical hermeneutic approach to the analysis of such situations, a rigorous body of knowledge can be developed, which contributes directly to the support of the practical knowledge developed by practitioners. This can only enhance information systems research, allowing for practically relevant, rigorous research to be conducted in an effective way.

## Limitations

One common criticism of ethnographic research is that it leads to in-depth knowledge only of particular contexts and situations. Until a large body of knowledge of many situations is developed, it is difficult to develop more general models of the meaningful contexts of various aspects of information systems development and application. However, generalizable knowledge is often neither relevant nor meaningful, in which case we are better off understanding specific contexts. Also, the lack of generalizability is more of a limitation due to the novelty of the approach in the field of information systems research than it is a limitation *per se*. Time should overcome this problem and lead to a much more widely informed body of knowledge. Also, it is possible to generalize from one ethnography to theory, just as it is possible to generalize from one case study to theory (Walsham, 1993; Yin, 1989).

The second major limitation is the time factor. Doing an ethnography takes a great deal of time, due as much to the time needed to prepare the members of the organization for acceptance of such an in-depth and scrutinizing approach as to the time needed to gather data and carry out many levels of interpretive analysis. The process of ethnography can be overwhelming for new researchers. They cannot enter situations with fixed frameworks and prepared questions, but can only offer those with whom they are working the view that they will be observing and collecting a great deal of data, none of which can be predicted beforehand. This can be most disconcerting for managers in the institutional contexts who wish to have some idea of the outcome of the research before they expose themselves and their institution to the research process. After having tackled this access issue, the ethnographer is often faced with the embarrassing situation of discovering many of the "warts and all" aspects of the context; a great deal of tact and care is needed which is best handled through the development of honest and thoughtful relationships with those in the situation. There are many ethical research issues associated with ethnography because of the in-depth and holistic nature of the discoveries which emerge. These have to be tackled thoughtfully and self-reflectively by the researcher. Having dealt with all these issues, the researcher is then left with a mountain of textual and documentary material which demands analysis. The analytical process has to be holistic, following threads of discourse in order to build up scenarios which are then challenged by other meaning frameworks. The process is daunting and difficult, demanding that a great deal of intellectual and emotional capability be brought to bear on the process of analysis. However, despite the difficult and time-consuming nature of ethnographic research, we believe that these

considerations are outweighed by the fact that ethnographic research is a very "productive" research method considering the amount and likely substance of the research findings.

Finally, perhaps the worst part of the outcome is in dealing with the publication of results. The common format of the positivistic, hypothetico-deductive approach cannot be adopted. Rather, a more story-telling approach is needed, which can be greeted with disdain by unsympathetic reviewers who may misinterpret the style as non-rigorous. This problem is compounded by the holistic nature of the research process making the delineation of the results into an average length journal article (20 pages) a very difficult task. The net result appears too often to be just a presentation of what happened in a situation, making ethnographic work appear to be some weak form of a case study approach, which it is not. Writers of ethnographies have many epistemological and theoretical questions of interpretation to cope with (Van Maanen, 1988) but these issues are compounded in the information systems research area where the expectation is that singular findings will be presented in individual articles, in a distinctive and segmented manner, and the net result will be an accumulation of the many small findings into a large body of knowledge. With ethnographic research, the approach and the resultant nature of the knowledge is more holistic so that each article is really a microcosm of the total knowledge, making the knowledge generated recursive rather than cumulative, a distinction which is obscure and often not appreciated by those who operate through more traditional approaches. This issue can only be solved by having more discussion on ethnographic research approaches so that greater appreciation can be gained.

### Conclusion

Information systems research is different from traditional scientific research in that it has to develop a body of knowledge which enhances the practical knowledge of workers in the institutional contexts under investigation. This leads to problems for researchers who may choose to give up rigour for relevance or the reverse of sacrificing relevance for rigour. Ethnography offers a research opportunity to conduct rigorous research which is of direct practical relevance. When supported by perspectives such as critical hermeneutics, the rigour is strengthened and more is discovered of the situation, leading to more knowledge with high potential for relevance to practitioners. This makes the ethnographic approach a worthy contender for bridging the gap between scholarly knowledge and practical knowledge, thus allowing for scholarship and practice to develop in collaborative coexistence.

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