A Set of Principles for Conducting Critical Research in Information Systems

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While criteria or principles for conducting positivist and interpretive research have been widely discussed in the IS research literature, criteria or principles for critical research are lacking. Therefore, the purpose of this paper is to propose a set of principles for the conduct of critical research in information systems. We examine the nature of the critical research perspective, clarify its significance, and review its major discourses, recognizing that its mission and methods cannot be captured by a fixed set of criteria once and for all, particularly as multiple approaches are still in the process of defining their identity. However, we suggest it is possible to formulate a set of principles capturing some of the commonalities of those approaches that have so far become most visible in the IS research literature. The usefulness of the principles is illustrated by analyzing three critical field studies in information systems. We hope that this paper will further reflection and debate on the important subject of grounding critical research methodology.

Keywords: Research methods, critical research, interpretive perspective, critical perspective, ethics, values

Introduction

Critical research is emerging as a potentially important stream in information systems research. Critical research in information systems is concerned with social issues such as freedom, power, social control, and values with respect to the development, use, and impact of information technology. For IT professionals, critical research can enrich their understanding and improve practice; it offers an avenue for them to discharge their social and ethical responsibilities more fully (Stahl and Brooke 2008). For IS researchers, critical research can challenge prevailing assumptions; the critical perspective reminds us of the constantly changing potential of humans who need not be confined by their immediate circumstances (Orlikowski and Baroudi 1991). Some indication of the increasing interest in critical IS research can be seen if we consider that two of the Best Paper Awards at MIS Quarterly have been given to critical research articles (Ngwenyama and Lee 1997; Te'eni 2001), four special issues of IS journals have been devoted to critical research (Brooke 2002; Cceez-Kemanovic et al. 2008; Kvasny and Richardson 2006; Truex and Howcroft 2001), and a book of readings has been published (Howcroft and Trauth 2005).

Despite this apparent potential, however, some have noted that critical research has not yet been recognized as a legiti-
mate approach in the IS discipline. Critical research remains underrepresented in the IS research literature (Falconer 2008), leading some to describe it as “a missing paradigm” in IS research (Chen and Hirschheim 2004; Richardson and Robinson 2007). Others have commented that critical research lacks an agreed theoretical basis, and the aims of critical research in IS are unclear (Kvasny and Richardson 2006). Therefore, one of the key aims of this paper is to raise awareness of the potential of critical research and to increase its legitimacy in information systems.

**Motivation and Purpose**

While criteria or principles for conducting positivist and interpretive research have been widely discussed (Benbasat et al. 1987; Klein and Myers 1999; Walsham 1995; Yin 2003), criteria or principles for conducting critical social research are lacking. Some researchers have raised fundamental questions about how critical research should be defined (Falconer 2008; Orlikowski and Baroudi 1991; Richardson and Robinson 2007), how it differs from interpretive research (McGrath 2005; Pozzebon 2004), and whether it makes a unique and valuable contribution (Tsoukas 1993). What counts as critical research, how it should be conducted, and how its quality should be assessed has remained rather vague.

Therefore, the purpose of this paper is to propose a set of principles for the conduct of critical field research in information systems. In order to achieve this purpose, we examine the nature of the critical research perspective, clarify its significance, and review the major discourses in critical social research. The principal motivation is to clarify the most basic mission of critical research, recognizing that this mission cannot be captured by a fixed set of criteria once and for all. However, it should be possible to formulate a set of principles capturing some of the commonalities of those approaches that have so far become visible in the IS research literature.

We would like to emphasize that our proposed set of principles is just one set of principles that IS researchers may choose to use. Given the tremendous diversity of critical research, we caution against our principles being used as canons to limit the kinds of critical research that IS researchers may conduct. We leave open the possibility that other authors may suggest additional sets of principles; indeed, other voices representing the many different forms of critical research are welcome and needed.

We also caution against our principles being used in a mechanistic manner. In fact, by using the word *principles* we are trying to emphasize the fact that they are just that: general principles, not narrowly defined criteria, that might inform critical IS research. Hence, scholars need to exercise their judgement and discretion in deciding whether, how, and which of the principles should be applied in any given research project (see Klein and Myers 1999).

Despite the danger of our proposed principles being used inappropriately, we believe that it is better to have some principles than none at all. The absence of any criteria or principles makes it very difficult for critical work to be published in our top journals and hinders the acceptance of critical research amongst the wider IS research community. Our claim is simply that we believe our proposed principles are consistent with a reasonable part of the literature on critical research since they are derived from certain critical thinkers that have been found to be useful by IS researchers. The principles are offered in the spirit that they may be helpful to IS scholars. Ultimately the quality (and status) of critical research within IS will benefit from a lively debate about its standards.

This paper has three audiences. First, it should be of interest to all those who are directly involved with critical research. Hopefully the principles offered in this paper will contribute to raising the aspirations for individual research projects. Second, it should be of interest to those researchers who have been reconsidering their own methodological stance and research values; as a result they might be thinking of moving toward critical social research but have been unsure how to proceed. Some researchers in this category may find some of our proposed principles beneficial in their own work. Third, many readers, while not being directly involved with critical research themselves, would like to better understand its methodological foundations and potential. Our hope is that this paper will lead to critical research being better understood and more widely accepted, and will stimulate further reflection and debate on the important subject of grounding critical research methodology.

**Organization of this Paper**

This paper is organized as follows. The next section reviews the IS research literature and suggests that three major critical research streams have emerged as a potential theoretical foundation for critical IS research. Based on these three streams, the subsequent section proposes a set of principles for conducting critical social research. The principles are then applied to three critical field studies in information systems to demonstrate their usefulness for IS scholars. The final section
discusses how the ideas proposed in this paper might help to define the mission and future directions of critical research within the full spectrum of IS research approaches.

**Critical Research**

In this section, we define critical research and briefly review the critical IS research literature. Based on this review, we suggest three major critical research streams as a theoretical foundation for critical research in IS.

**Defining Critical Research**

Considerable controversy surrounds how the various research paradigms should be classified (Bernstein 1983). Burrell and Morgan (1979), in their classic framework, suggested four research paradigms: functionalist, interpretive, radical humanist, and radical structuralist. Their framework has been questioned, however, with Deetz (1996, p. 191) arguing that the dimensions of their framework “obscure important differences in current research orientations and lead to poorly formed conflicts and discussions.”

Guba and Lincoln (1994) suggest four underlying paradigms for research: positivist, post-positivist, constructivist, and critical. In their most recent work, however, they acknowledge that there are major issues confronting their own classification scheme (Guba and Lincoln 2005).

In this article we use Orlikowski and Baroudi’s (1991) classification scheme, which itself is based on Chua’s (1986) work. They suggest three research paradigms: positivist, interpretive, and critical. Although we acknowledge that this classification is just one of many, this three-fold distinction seems to have been widely embraced within the IS research literature (Klein and Myers 1999; McGrath 2005; Myers 2009; Ngwenyama and Lee 1997; Richardson and Robinson 2007; Stahl and Brooke 2008) and is not too dissimilar from Guba and Lincoln’s framework.

Orlikowski and Baroudi classify research as critical where a critical stance is taken toward taken-for-granted assumptions about organizations and information systems, and where the aim is to critique status quo “through the exposure of what are believed to be deep-seated, structural contradictions within social systems” (p. 6).

Orlikowski and Baroudi say that some of the defining features of the critical research philosophy are a belief in the ability of people to change their material and social circumstances, yet the capacity to change is constrained by prevailing systems of economic, political, and cultural authority; a belief that contradictions inherent in existing social forms tend to lead to inequalities and conflicts, yet these conflicts lead to the emergence of new social forms; and a belief that knowledge is grounded in social and historical practices. Critical research aims to transform these alienating and restrictive social conditions. Hence, the critical research philosophy differs from the positivist and interpretive research philosophies, both of which “are content to predict or explain the status quo” (Orlikowski and Baroudi 1991, p. 19).

**A Review of the IS Research Literature**

Based on the definition of critical research presented above, Table 1 summarizes the key characteristics of a selection of critical research articles in information systems.

Although the list of critical IS research articles in Table 1 is by no means comprehensive, one noticeable feature is the fact that most IS research studies published in the 1990s used concepts from the critical social theory of Habermas only (e.g., Lyytinen 1992; Myers and Young 1997). Richardson and Robinson (2007) point out that critical research in information systems is still identified with the critical social theory of Habermas today, even though this represents just one school of thought within what is a broad approach (see Cecez-Kecmanovic 2001a; Cecez-Kecmanovic et al. 2008; Te'eni 2001). In the following decade, however, IS researchers began to use theoretical concepts from other critical theorists besides Habermas, particularly Bourdieu and Foucault.

Although some critical theorists have had a negative view of aspects of technology, IS researchers have been reasonably even-handed in their treatment of technology, seeing both its downside and potential. Also, while Orlikowski and Baroudi criticized critical researchers for focusing almost exclusively on economic factors in social relations, obscuring the importance of other factors such as race and gender, recent critical IS research has engaged with these issues (see Falconer 2008; Howcroft and Trauth 2005; Kvasny and Keil 2006).

**Possible Theoretical Foundations for Critical Research**

Critical research takes many different forms, not all of which draw on a single philosophical foundation; but all of them draw on some philosophical foundation. This section briefly
Table 1. Key Characteristics of Selected Critical Research Articles in IS

<table>
<thead>
<tr>
<th>Article</th>
<th>Critical Research Stream</th>
<th>Research Method</th>
<th>Theoretical Focus</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lyytinen and Klein (1985)</td>
<td>Habermas</td>
<td>Conceptual study</td>
<td>Habermas’ theory of knowledge interests applied to IS development</td>
<td>Information systems should be designed, not just for organizational effectiveness, but also to emancipate people from “undesirable social and physical constraints”</td>
</tr>
<tr>
<td>Ngwenyama (1991)</td>
<td>Habermas</td>
<td>Conceptual study</td>
<td>Habermas’ theory of knowledge interests applied to IS research</td>
<td>As critical social theory has as its primary objective “the improvement of the human condition,” IS research should be reoriented toward practice</td>
</tr>
<tr>
<td>Hirschheim and Klein (1994)</td>
<td>Habermas</td>
<td>Conceptual study</td>
<td>Critical social theory applied to IS development</td>
<td>Emancipatory principles from critical social theory can be implemented using Mumford’s (1983) systems development methodology called ETHICS</td>
</tr>
<tr>
<td>Ngwenyama and Lee (1997)</td>
<td>Habermas</td>
<td>Conceptual study</td>
<td>A critique of information richness theory using critical social theory</td>
<td>Critical social theory reveals that the validity or rightness of what is being communicated is pivotal</td>
</tr>
<tr>
<td>Doolin (2004)</td>
<td>Foucault</td>
<td>Case study</td>
<td>Foucault’s theory of disciplinary power applied to IS implementation and use</td>
<td>A new medical information system rendered the work of doctors more visible, however the doctors successfully resisted the “gaze” of this new form of surveillance</td>
</tr>
<tr>
<td>Kanungo (2004)</td>
<td>Habermas</td>
<td>Case study</td>
<td>Habermas’ theory of communicative action</td>
<td>The establishment of knowledge centers in Indian villages had emancipatory consequences</td>
</tr>
<tr>
<td>Levina (2005)</td>
<td>Bourdieu</td>
<td>Ethnographic field research</td>
<td>Practice theory applied to multiparty information systems development projects</td>
<td>Power is conceptualized as both institutionalized and emergent in ISD projects</td>
</tr>
<tr>
<td>Kvasny and Keil (2006)</td>
<td>Bourdieu</td>
<td>Two case studies</td>
<td>Bourdieu’s concepts of habitus and forms of capital</td>
<td>Providing free technology access is an oversimplification of the digital divide problem</td>
</tr>
</tbody>
</table>

explains our selection of the three critical theorists that provide the theoretical foundation for this paper. Among the considerations guiding our selection were the following criteria:

- To what extent have they been used in the IS research literature, in particular the leading journals?
- To what extent are their writings concerned with substantive social issues such as freedom, power, social control, and values (as opposed to mostly epistemological or methodological issues)?
- To what extent have they acquired a reputation as critical theorists in the social science literature?
- Are they sufficiently different from each other?

Based on these criteria, we considered four authors (Bourdieu, Giddens, Foucault, and Habermas). However, we decided to exclude Giddens because his work is primarily concerned with epistemic and ontological issues of building bridges between positivist and interpretive research approaches rather than with the critique and improvement of social conditions (see Bernstein 1997). Moreover, he himself has not claimed to be a critical theorist and he is not listed in many overviews of critical research (e.g., Macey 2000). Therefore, this leaves three major critical research streams that are most visible in the IS research literature. These are associated with the critical social theories of Habermas, Foucault, and Bourdieu. Our selection is consistent with the findings of Jones (2000).

The work of each of the three theorists is significantly different. Bourdieu’s work has involved ethnographic field-
By focusing on these three streams, we believe that we capture some of the most important contributions to critical theory that have so far appeared in the IS research literature. However, we acknowledge that there are many other critical theorists whose work could be very relevant to IS (see Probert 2004). Future authors may wish to suggest additional or alternative sets of principles for critical research. Given that the three theorists we have selected all come from a secular Western culture, IS researchers might like to suggest principles based on post-colonial theory (e.g., Said or Babha) or perhaps have a religious basis (e.g., Dooyeweerd). We wish to encourage the introduction of new authors into the critical stream of IS research.

**Three Major Critical Research Stream**

Following our selection of the three major critical theorists, we analyzed their main writings for fundamental ideas that could ground a set of principles for the conduct and evaluation of critical field studies. In order to identify principles from the writings of each of the three theorists, we also took into account the writings of their historical predecessors. Our starting point was Brockelsby and Cummings’ (1996) insight that each critical theorist is a representative of a lineage connecting their current writings to prior contributions. Brockelsby and Cummings distinguish two principal lineages of social critique, one ending in Foucault and the other in Habermas. To these we have added Bourdieu, who constitutes a third lineage.

Table 2 presents an overview of the three critical research streams. Of course, it is impossible to do justice to all the writings of the three thinkers here. Hence, we highlight some of their most fundamental ideas only.

The Bourdieu lineage gives emphasis to asymmetric distribution of symbolic and social assets in society, which then cause and reproduce (i.e., maintain) discriminatory social stratification between the “haves” and the “have-nots.” Important concepts in Bourdieu’s theory of practice are habitus, field, and social and symbolic capital. Habitus refers to an individual’s set of acquired patterns of thought, behavior, and taste that encodes a certain cultural understanding. The term is used to describe “the unconscious internalization of objective social structures which appear spontaneous and natural, but which are in fact socially conditioned” (Macey 2000, p. 175). Each individual occupies a position in a multidimensional social space (a field). Within this dynamic field of forces, an individual is not defined by social class membership, but by the amounts of each kind of capital he or she possesses. Bourdieu extends the original economic concept of capital to include concepts such as social, cultural, and symbolic capital. Bourdieu says that all these forms of capital can be produced to reproduce inequality (Bourdieu 1977, 1990, 1993; Calhoun et al. 1993; Harker et al. 1990).

For example, in his research on higher education in France, Bourdieu found that working class children are seriously under-represented, even though French universities are theoretically open to all. He found that this underrepresentation was not due to a lack of academic talent, but to a lack of cultural capital (e.g., no access to or knowledge of serious music, contemporary literature, and art).

The second lineage, culminating in Foucault, concerns itself more with providing tools which individuals can use themselves as they see fit, to free their minds to alternatives by highlighting the way in which power within systems subjugates them. This approach seeks to bring into play, to make visible, the unwritten categories and rules of the system(s), so as to enable individuals to develop responsive strategies to them rather than collectively build shiny new systems. Fundamentally, the issue is human emancipation or self-emancipation (Brocklesby and Cummings 1996, p. 741).

Some important concepts in Foucault’s work are discourse, archaeology, and genealogy of knowledge, and panopticon. The term discourse refers to an extended piece of text (written or verbal) that is governed by rules and conventions of which the user is largely unconscious (Macey 2000, p. 100). Discourse is an intersubjective phenomenon in which a speaker intends to influence the hearer.

The archaeology of knowledge is the method Foucault uses to examine the discursive traces left by the past in order to understand the processes that have led to what we are today. The archaeological method aims to reveal the rules of thought of various “discursive formations” in order to show how truth claims emerge in history. Since knowledge is power, a discursive formation is a collection of texts that has become powerful in a particular field. For example, Foucault studied how madness in 19th century psychiatry
### Table 2. Characteristics of the Three Major Critical Research Streams

<table>
<thead>
<tr>
<th>Lineage (sources of influence)</th>
<th>Bourdieu</th>
<th>Foucault</th>
<th>Habermas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main research focus</strong></td>
<td>Forms of behavior—that appear to be spontaneous and natural—that are in fact socially conditioned; the power of symbolic systems and their domination over the construction of reality; hidden mechanisms of reproduction of social and cultural practices (Macey 2000).</td>
<td>Discursive practices from the perspective of history of epistemology and theory of knowledge; he described himself as a “specialist in the history of systems of thought” (Macey 2000, p. 133).</td>
<td>Until about 1973: Philosophical examination of the relationship between knowledge and human interests; a reconsideration of the validity of natural science methods for the social and cultural sciences. <em>After 1973:</em> Communicative action as the basis of modern societies.</td>
</tr>
<tr>
<td><strong>Espoused values</strong></td>
<td>Explicit values are consistent with but not explicitly derived from the enlightenment ideal (e.g., participatory democracy, non-exploitative working conditions, and open education).</td>
<td>Explicitly skeptical of the viability of the enlightenment ideal as revealed in the debate with Habermas, but believed that local and individual emancipation may be possible.</td>
<td>Explicit commitment to complete the unfinished project of enlightenment with endorsement of its linearity based on Kant.</td>
</tr>
<tr>
<td><strong>Important concepts</strong></td>
<td>Habitus, field, social, cultural and symbolic capital (Harker et al. 1990).</td>
<td>Discourse; archaeology and genealogy of knowledge, and panopticon.</td>
<td>Cognitive interests, communicative action and strategic action; lifeworld and systems.</td>
</tr>
<tr>
<td><strong>Research approach</strong></td>
<td>Ethnographic field studies of exploitative work practices in Algeria and under-representation of working class children in tertiary education in France.</td>
<td>Detailed historical studies of institutions such as the birth of the clinic and the functioning of the penal system revealing the interdependence of knowledge and power in discursive social practices.</td>
<td>Applying concepts from the history of social philosophy to rational reconstruction of self-formative processes resulting in cognitive interest theory. Later the complete reformulation of critical social theory in the theory of communicative action.</td>
</tr>
</tbody>
</table>

was “socially constructed by a wide variety of discourses that give rise to collective attitudes or mentalities defining insanity” (Macey 2000, p. 134).

The *genealogy of knowledge* is similar to Foucault’s archaeology of knowledge, except that a genealogical analysis aims to show how a given system of thought (a discursive formation) is the result of contingent events of history, and not the outcome of rationally inevitable trends. Foucault uses the idea of the *panopticon* as a metaphor for the operation of power and surveillance in contemporary society. The panopticon was a design for a prison produced by Jeremy Bentham in the late 18th century which grouped cells around a central viewing tower. The main function of the panopticon is that it allows an observer to observe all the prisoners without the prisoners knowing if they are being watched or not. It gives the power of omniscience to the observer, while the prisoners are conscious of being in a state of permanent visibility. Foucault suggests that contemporary society is penetrated through and through with various disciplinary mechanisms which regulate the behavior of individuals, and these operate largely through self-surveillance (i.e., where people, often unconsciously, monitor their own behavior) (Brocklesby and Cummings 1996; Foucault 1970, 1972, 1979; Foucault 1992; Gutting 1989; Mahon 1992).

The last lineage, culminating in Habermas, is primarily concerned with developing a systematic theory “that can be applied to collectively emancipate others from a ‘worse’ to a ‘better’ state” (Brocklesby and Cummings 1996, p.741). Some important concepts in Habermas’ work are *cognitive interests*, *communicative action*, *lifeworld*, and *system*. Habermas’ (1972) theory of cognitive interests suggests that all knowledge is related to certain fundamental interests.
Cognitive interests “are the general orientations or strategies that guide how people acquire and use knowledge to pursue their interests” (Klein and Huynh 2004, p. 174). Habermas distinguishes three cognitive interests: the technical interest, concerned with facilitating human technical control over natural as well as social objects; the practical interest, concerned with practical communication with others; and the emancipatory interest, aimed at overcoming the distortions and imperfections of ordinary communication (Klein and Huynh 2004).

Habermas (1984) developed these ideas further in his theory of communicative action, in which he makes a distinction between strategic and communicative action. Strategic (or instrumental) action is where the actors are oriented to “success” and they cooperate or compete based on their own private goals; communicative action is where the participants are oriented toward mutual understanding. Habermas suggests that it is only through the latter that emancipation can be achieved.

Habermas also makes an important distinction between three worlds—the objective, social, and subjective worlds—in which human actions take place. The objective world is the external world to which people have shared access (e.g., a building); the social world is the shared world of norms in a particular social situation or culture; the subjective world is one to which each individual has exclusive access (Klein and Huynh 2004).

Another distinction that Habermas makes is between the internal subjective viewpoint of the lifeworld and the external viewpoint of systems. Lifeworld is the taken-for-granted world as experienced by people and consists of three elements (culture, society, and personality). Systems are functionally definable, tangible organizations that follow lifeworld concerns. However, lifeworld colonization occurs if the instrumental rationality of organizational and institutional systems gets out of hand. Habermas maintains that it is possible to counter such colonization by rational argument (Broadbent et al. 1991; Cecez-Kecmanovic 2001b; Habermas 1984, 1988, 1993; Habermas et al. 1992; Myers and Young 1997).

**The Elements of Critical Research**

Although there are different ideas about how to proceed with critical field research in the literature, Alvesson and Deetz (2000) suggest that critical research is comprised of three elements. They name these three elements insight, critique, and transformative redefinition. The use of the term elements serves to emphasize that, in the practice of critical research, it might neither be practical nor desirable to completely separate these three elements from each other; they are all, to some extent, interconnected. All three elements are present in a critical study. The three elements are summarized in Table 3.

The purpose of the first element is to provide a broad insightful understanding of the current situation before engaging in critical analysis as outlined in the subsequent elements. This includes but is not limited to a careful description of the situation. Others have seen the need for careful interpretive analysis and diagnosis of the social situation as the first element of critical analysis before proceeding to therapeutic proposals of social change (Alvesson and Deetz 2000, pp. 140-142; McGrath 2005).

McGrath (2005) suggests that the principles of interpretive research suggested by Klein and Myers (1999) could be useful for critical as well as interpretive research. We agree with her that the principles they propose could be useful for gaining insight into social situations (the first element of critical research). However, the interpretive principles they suggest are not sufficient for critical research; they do not deal adequately with the two additional elements of critique and transformation.

The second element of critique requires critical researchers to adopt a more critical stance than interpretivists. The purpose of critique is to reveal the normative basis of the current situation found in the research site and the forms of legitimation that justify the current social order. This element could draw on the literature of critical hermeneutics which suggests that “there are socio-economic and political constraints within which human communication takes place” (Myers 2004). In this form of hermeneutics there is thus an attempt to mediate “hermeneutically-grounded self-understanding” and “the objective context in which it is formed” (Bleicher 1982, p. 150). More concretely, this means that critical hermeneutics recognizes that all human interpretations are shaped by political, economic, and social contexts; this introduces a bias that critical hermeneutics tries to overcome by reflection and discourse.

Alvesson and Deetz (2000, p. 144) state that

Critique cannot be separated from insight. In any insight there lies a critical element in the sense that a prior understanding is at least implicitly seen as being insufficient. Critique builds upon insight. The difference is that critique explicitly relates to the conditions of power, constraint, social asymmetries, ideological domination, cultural inertia that give
Table 3. The Three Elements of Critical Research

<table>
<thead>
<tr>
<th>Brief Description</th>
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<tbody>
<tr>
<td><strong>Insight</strong></td>
</tr>
<tr>
<td>This element is concerned with interpretation and gaining insight. Insight can be gained in various ways, e.g., using critical hermeneutics and the archaeology of knowledge, or the concepts of social reproduction via the mechanisms associated with symbolic capital.</td>
</tr>
<tr>
<td><strong>Critique</strong></td>
</tr>
<tr>
<td>This element is concerned with critique, the genealogy of knowledge, and the social practices of control and reproduction. This element goes beyond interpretation to focus the researcher on the power structures that lie behind accepted interpretations.</td>
</tr>
<tr>
<td><strong>Transformation</strong></td>
</tr>
<tr>
<td>This element is concerned with suggesting improvements to the conditions of human existence, existing social arrangements, and social theories. Theories are not the primary driver for changes, but potentially fallible lenses through which we see the world. The ultimate arbiters of the desirability of changes are those affected by them.</td>
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</table>

We suggest that three principles are applicable in the second element of critical research in IS (these principles are discussed below).

In the third element of transformative redefinition, critical, managerially relevant knowledge and practical understandings are developed “that enable change and provide skills for new ways of operating” (Alvesson and Deetz 2000, p. 19). The idea is to “enable alternative responses” that may lead to the development of “more progressive and mutually satisfying” forms of management (Alvesson and Deetz 2000, p. 20). We suggest that three principles are applicable in the transformative element of critical research in IS (as discussed below).

**A Set of Principles for Critical Research**

In this section we propose a set of principles for the conduct of critical field research in information systems. There are two sources for these principles: the past practice of critical field research in information systems and other management disciplines and our understanding of the underlying philosophical foundations of critical research. The principles are summarized in Table 4.

It should be noted that we are proposing principles for the three critical research streams only. We leave it to others to suggest principles for other critical theorists. Also, our principles are concerned solely with the two elements of critique and transformation. This is because the first element of insight is virtually identical to the kind of insight that is provided by interpretive research. There are various ways that insights can be gained into social situations (e.g., Klein and Myers 1999; McGrath 2005; Schultze 2000).

Our choice of the word *principles* requires some explanation. Like Klein and Myers (1999), we use this word to emphasize that the general principles we propose are offered in the spirit of being fundamental ideas that may be helpful to critical researchers in IS. The ideas are fundamental because they are derived from certain philosophical writings (as referenced below) that are considered classical contributions to critical thinking; the principles should be helpful because they summarize important insights which as a whole are (as yet) not embedded in the current practices of critical research, but could improve them if observed more systematically.

However, the principles are not like bureaucratic rules of conduct, because the application of one or more of them still requires considerable creative thought. This follows in part from the idiographic nature of critical studies and in part from their philosophical grounding. Our use of the word *principles*, therefore, guards against the idea that their use is mandatory; rather, it is incumbent upon IS scholars to exercise their best judgment and discretion in deciding whether, how, and which of the principles should be applied and appropriated in any given research project (see also Klein and Myers 1999). This does not mean that we advocate arbitrarily selecting some principles while ignoring others. We defer the question for later as to whether all of these principles are of equal importance in all projects when we discuss the differences between interpretive and critical research in the conclusions.
### Table 4. A Proposed Set of Principles for Critical Research

<table>
<thead>
<tr>
<th>The Element of Critique</th>
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</table>
| **1. The principle of using core concepts from critical social theorists** | This principle suggests that critical researchers should organize their data collection and analysis around core concepts and ideas from one or more critical theorists.  
Example: Ngwenyama and Lee (1997) use core concepts from Habermas to critique information richness theory. |
| **2. The principle of taking a value position** | Critical theorists advocate values such as open democracy, equal opportunity, or discursive ethics. These values drive or provide the basis for principles 4 through 6.  
Example: Adam (2005) looks at how ethics may be more effectively integrated into critical IS research. |
| **3. The principle of revealing and challenging prevailing beliefs and social practices** | This principle suggests that critical researchers should identify important beliefs and social practices and challenge them with potentially conflicting arguments and evidence.  
Example: Doolin (2004) considers how a medical information system was supposed to help administrators to ensure efficiency and financial viability, but he challenges the underlying beliefs and assumptions of the system using concepts from Foucault. |

<table>
<thead>
<tr>
<th>The Element of Transformation</th>
<th></th>
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</table>
| **4. The principle of individual emancipation** | Alvesson and Wilmott (1992) say that all critical social theory is oriented toward facilitating the realization of human needs and potential, critical self reflection, and associated self-transformation.  
Example: Kanungo (2004) shows how a field laborer in an Indian village was able to receive credit and training using the data available in the local knowledge center to improve her standard of living. |
| **5. The principle of improvements in society** | This principle suggests that improvements in society are possible. The goal is not just to reveal the current forms of domination, but to suggest how unwarranted uses of power might be overcome (although the critical theorist should not assume any special position of authority). Most critical theorists assume that social improvements are possible, although to varying degrees.  
Example: Kvasny and Keil (2006) make recommendations with regard to how the provision of social services (using IT) for historically disadvantaged groups might be improved. |
| **6. The principle of improvements in social theories** | All critical theorists believe that our theories are fallible and that improvements in social theories are possible. Critical researchers entertain the possibility of competing truth claims arising from alternative theoretical categories, which can guide critical researchers in their analyses and interventions.  
Example: Habermas modified his ideas in response to debates with Foucault and Gadamer. Conversely, Foucault and Gadamer modified their positions. |
The Principle of Using Core Concepts from Critical Social Theorists

The first principle marks a point of departure from pure interpretivism. Generally speaking, critical researchers start out with a priori theoretical concepts derived from one or more critical theorists, although the selection of theory depends upon which concepts are judged to be of most relevance to the social situation being studied. We note that many researchers, both from IS and other disciplines, simply use critical theory as a synonym for critical research (Cecez-Kecmanovic 2001b; Kincheloe and McLaren 2005; Prasad and Caproni 1997). However, critical researchers understand a social theory not as determining how they see the world, but as helping them to “devise questions and strategies for exploring it” (Kincheloe and McLaren 2005, p. 306). Howcroft and Trauth (2004) provide an excellent summary of the various social theories and social thinkers that fit under the critical umbrella (see also Macey 2000).

Therefore, this principle suggests that critical researchers should organize their data collection and analysis around the core concepts and ideas from one or more critical social theorists. Of course, as principle six suggests, critical researchers should not simply accept these concepts uncritically. Rather, they should subject these concepts to continual critical reflection, just as they should their own research projects (Tsoukas 1992, 1993; Wilson 1997).

Examples of this principle are Ngwenyama and Lee’s (1997) article, which uses core concepts from Habermas to critique information richness theory, Doolin’s (2004) article, which uses concepts from Foucault to analyze the implementation of a medical information system, and Schultze and Boland’s (2000) article, which uses concepts from Bourdieu to examine the work practices of competitive intelligence analysts.

The Principle of Taking a Value Position

The second principle explicitly recognizes the importance of taking a value position for motivating and grounding a critical research project. Critical theorists advocate values such as open democracy, equal opportunity, or discursive ethics. This value position, along with the theoretical concepts of the first principle, provides the foundation for the principles that follow. Of course, this principle is not meant to imply that positivist or interpretive researchers do not have their own values.

Of the three critical theorists, Habermas is the most explicit in articulating a value position. Habermas proposes discourse ethics anchored in his theory of communicative action. He argues that the validity of a claim to normative rightness depends upon the mutual understanding achieved by individuals in argument (Habermas 1993; Habermas et al. 1992). Bourdieu, while not as explicit as Habermas, saw his own work and sociology more generally as a means of confronting symbolic violence. According to Bourdieu, symbolic violence is the imposition of categories of thought and perception upon dominated social agents who then not only take the social order for granted, but also consider it to be just. Applying this idea to education, Bourdieu was critical of the unfair class structures which limit social mobility in France (Bourdieu 1977, 1990; Calhoun et al. 1993). Foucault is the least explicit of the three thinkers in advocating a value position and, generally speaking, rejected the idea of normative values altogether. However, he was critical of the so-called “new treatments” of mental illness, which he argued amounted to no less than repeated brutality (Foucault 1992). He also thought that prisoners in France should have a means of voicing their concerns. This underlying ethical concern for those who are powerless inspired his work on prisons (Foucault 1979).

We acknowledge that the three critical theorists we have focused on in this paper base their values on secular Western culture; however, there are other possible value positions for a critical research project. For example, a value position could be based on postcolonial theory, which identifies most closely with the developing world in non-Western countries (Ashcroft 2001; Prasad 2003; Said 1978; Young 2001); alternatively, it could find a basis in religion (Dooyeweerd 1979, 1999) or the secular ethics of environmental sustainability.

No matter which value position is taken, all critical researchers do not take their own values for granted, but subject these to critical scrutiny. This principle recognizes values as an important object of inquiry, the comparison of competing value sets and, with this, the determination of a defensible ethical stance in matters of social policy. For example, many critical theorists would argue that values associated with human rights, democracy, justice, and fairness can be applied to general business and economic issues. A critical theorist might look at managerial rationalism, and see how information systems embed certain values, and so forth.

An example of this principle in critical IS research is Adam’s (2005) article, which examines how ethics may be effectively integrated into IS research.

The Principle of Revealing and Challenging Prevailing Beliefs and Social Practices

Rather than simply describing current beliefs and social practices, this principle builds on the first two to challenge
prevailing assumptions, beliefs, values, and practices that are often taken for granted. This can be done by constructing counter arguments and exposing the biased or insufficient nature of the evidence.

This principle is particularly important for IS researchers because the concepts of information, knowledge, and their uses are central to the information systems field. The principle analyzes the relations or forces determining what counts as knowledge and information and what are their legitimate uses.

This principle thus encapsulates what Foucault calls the “critical genealogy of knowledge.” Critical genealogy looks at knowledge in two ways: how it is conditioned by exercising power through “regimes of truth,” and how knowledge can be used as a tool of power once it has become available (e.g., for social control or reaffirmation of the status quo). This principle thus directs attention to the complex relationships between human interests, knowledge, power, and forms of social control at various levels in human society, and how they interact to bring about the current state of affairs (Mahon 1992).

This principle is also motivated by Bourdieu’s work in which he showed how existing educational institutions maintained and reproduced the existing system of privilege. Although in theory tertiary education in France is open to everyone, in practice the educational system favors the incumbent elite (Harker et al. 1990).

This principle thus directs attention to habits, customs, and conventions that are typically passed on by venerable tradition and sacrosanct sources of authority (this is similar to Foucault’s fetishisms).

This use of this principle can be seen in Doolin’s article about the development and implementation of a medical information system. The system represented a government-instigated initiative that was supposed to help administrators to ensure efficiency and financial viability of the hospital. However, using concepts from Foucault, Doolin reveals and challenges the prevailing assumptions and beliefs about the system’s effectiveness (see also Wilson 1995).

The Principle of Individual Emancipation

The fourth principle is the first of three relating to the transformative element of a critical research project.

The fundamental idea of human emancipation in critical theory arises from Kant’s definition that human enlightenment involves thinking autonomously, free of the dictates of external authority. More recently, Alvesson and Wilmott (1992) have proposed the following criteria for critical research to be emancipatory. They say that critical social research must

1. Be concerned with conditions of human existence which facilitate the realization of human needs and potential (this is the domain of inquiry).

2. Support a process of critical self reflection and associated self-transformation. This corresponds to Ulrich’s (1983) principle that social design “is not merely a matter of instrumental orientation towards some purpose... but that for socially rational planning it is essential that the planner initiate a process of emancipatory self-reflection on the part of the affected” (p. 260).


The principle of emancipation requires that the researcher assume a value stance that potentially takes issue with some of the human conditions or practices in the domain being investigated. These practices may be in some sense unjust or harmful or at least unfair for some subgroup. The critical researcher thus has the important analytical task of identifying possibilities for change both in their physical and social circumstances. He or she seeks to enlighten people as to their real situation (Brocklesby and Cummings 1996, p. 742).

An example of this principle in the IS research literature is Kanungo’s (2004) article, in which he shows how a field laborer in an Indian village was able to receive credit and training using the data available in the local knowledge center. The improved access to markets through the availability of prices and marketing information in the knowledge center enabled this person to achieve a higher standard of living. This result was emancipatory in a part of India where many of the villagers live below the poverty line.

The Principle of Improvements in Society

Building on the previous principle, this principle suggests that improvements may be possible, not just at an individual level, but in society as a whole. In fact it can be argued that one of the purposes of social theory is to suggest improvements to organizations, institutions (e.g., the press and public education), and society. Critical theorists have argued that improvements at all levels must go hand in hand, because their success is contingent on each other. This principle thus sug-
gests that the critique of social conditions or practices should not only lead to better understanding (enlightenment), but that it should also lead to improvements in social practices and society as a whole. However, the direction of the improvement must emerge from internal, self-formative governing processes, in which critical theorists must not be given any special powers of authority. Hence, taking the example of an IS project in a third world country, this means that the critical researcher would be more of an "enabler" than a "director" (while recognizing that he or she would still be injecting a considerable amount of personal and theoretical knowledge into the situation). The authors acknowledge that the details of how this kind of change should or can happen are highly controversial.

This principle has been developed the most by Habermas and other critical theorists of the Frankfurt School. The concept of emancipation they developed describes the process through which individuals and groups become freed from repressive social and ideological conditions, in particular those that place socially unnecessary restrictions upon the development and articulation of human consciousness (Alvesson and Willmott 1992, p. 432).

However, this principle is not limited to just one particular type of critical research. Bleicher (1980, p. 233) says that critical hermeneutics is also "directed at the future and at changing reality rather than merely interpreting it." Likewise, some of Bourdieu’s work was directed at improving opportunities for higher education in France (Harker et al. 1990).

However, not all critical theorists are optimistic that much social improvement is possible. Although Foucault agrees that individual emancipation is possible (Brookesby and Cummings 1996), he is skeptical of the possibility of emancipation at a societal level. Nevertheless, Foucault’s work does ultimately aim at reducing illusions about the nature of truth and in that sense it reduces ignorance. This in turn may help human beings subject to certain practices to uncover and understand them, thereby improving their chances to empower themselves.

An example of this principle in IS research can be found in Flood and Jackson’s (1991) total systems intervention methodology. They maintain that this IS development methodology is aimed at emancipation. Hirschheim and Klein (1994) suggest that a modification of Mumford’s ETHICS methodology could be used for emancipatory systems development. Another example of this principle is Kvasny and Keil’s (2006) article. They look at the provision of social access to IT by municipalities in the United States. They make recommendations as to how the provision of these services for historically disadvantaged groups might be improved by better articulating the needs of those affected based on insights gleaned from interacting with them.

The Principle of Improvements in Social Theories

This principle is concerned with the growth and improvement of theoretical knowledge. Although principle one suggests that critical researchers should organize their data collection and analysis around the core concepts and ideas from one or more critical social theorists, this does not mean that these concepts should remain unchallenged or that new ones might not emerge. Rather, our theoretical apparatus should be subject to change, partly in response to new historical discoveries or empirical data on current social changes, and partly in response to new theoretical reasoning and debate. Hence, all critical theorists assume that our social theories and concepts have changed over time and will continue to do so. This last principle suggests that critical researchers should be willing to subject their own research project to self-critique. It also suggests that, in IS especially, some critical researchers should be seeking to improve socio-technical theory.

There are two parts to this principle: explicit procedures of evidence giving and the acceptance of the idea of fallibility which gives rise to the need for self-correction. Explicit procedures of evidence giving depend on an explicit truth theory for the evaluation of claims made throughout the research process. For example, in the case of statistical evidence, the truth theory is correspondence theory and the procedures of evidence giving depend on an explicit truth theory for the evaluation of claims made throughout the research process. For example, in the case of statistical evidence, the truth theory is correspondence theory and the procedures of evidence giving depend on an explicit truth theory for the evaluation of claims made throughout the research process. For example, in the case of statistical evidence, the truth theory is correspondence theory and the procedures of evidence giving depend on an explicit truth theory for the evaluation of claims made throughout the research process.

A further advantage of coherence truth theories over correspondence theories is that they are more general than correspondence theories because they can also be applied to value statements and ethical claims. This is important because critical theorists would accept that they need not only be self-critical of their assumptions and evidence believed to be factual, but also of their value base. Coherence theory permits researchers to advance rational arguments pertinent to both types of knowledge.

An example of this principle is given in Myers and Young’s (1997) article. Although their article largely supports Habermas’ model of societal development, their findings throw into
question some aspects of Broadbent et al.’s (1991) adaptation of this model. Myers and Young found that the coalitions of stakeholders emerged as the development of the system progressed, contradicting some of Broadbent et al.’s assumptions that organizational participants can be categorized into distinct groups and that these groups are opposed because of the underlying economic and power relations. In this particular case, the mental health information system was successfully implemented with the input and support of doctors and nurses on the project team and a user group that, according to Broadbent et al’s Habermasian model, would have been expected to oppose the system.

Examples of Critical Research

The purpose of this section is to examine three published examples of critical field research from the IS research literature to illustrate the value of our proposed set of principles for critical research. The three examples are Doolin’s (2004) study of the implementation of a large information system in the health sector, Kanungo’s (2004) analysis of the emancipatory benefits of rural information systems in India, and Kvasny and Keil’s (2006) research into the digital divide in two U.S. cities.

We selected these papers for two reasons. First, all three explicitly describe themselves as critical. Second, each of them illustrates a different research stream: Doolin’s article uses concepts from Foucault, Kanungo’s uses concepts from Habermas, whereas Kvasny and Keil’s article uses concepts derived from Bourdieu.

Doolin considers the implementation of an information system in the health sector. Doolin relies on core concepts from Foucault, in particular Foucault’s relational conception of power. Its key characteristic is that power is exercised “from within the social body rather than above it.” This means that power operates by structuring the field of possible actions and responses by individuals. “It is manifested in the numerous knowledges, practices and technologies that are brought to bear on the actions of others” (Doolin 2004, p. 345). Doolin also relies on Foucault concept’s of disciplinary power, and shows how the surveillance process facilitated through the new information system increased the visibility of the resources used for patient care. The article thus illustrates the first and third principles very well, and the interplay between insight and critique. The sixth principle is also illustrated in that Doolin calls into question some aspects of the theory. He shows that information systems are also capable of “empowering those over whom control is attempted.”

However, the article does not apply the second principle (taking a value position) in that it maintains a very descriptive stance. No ethical position is taken one way or the other. It seems to us that the failure to apply the second principle has epistemic consequences. In applying the third principle, the researcher should not only document the shared or conflicting beliefs and practices, but also help to give voice to those who might be disadvantaged or underrepresented. Although Doolin’s article is related to medical information systems, the perspective of the patient is not really considered.

Given the lack of attention to the second principle, it is perhaps not surprising that the article does not deal with the element of transformation. Improvements to the lives of individuals and the organizations as a whole are not considered (the fourth and fifth principles). Therefore, while the article illustrates the importance of the first and third principles, it does not go far enough. The critical analysis is not as penetrating as it could be because it does not extend his critical analysis to any of the principles in the element of transformation. Our review of the critical research literature in IS suggests that this pattern is quite common (see Myers and Young 1997). We will return to this point in the conclusions.

Kanungo’s article not only considers the element of transformation by providing some recommendations, but also reports actual social changes for the betterment of the lives of disadvantaged groups in India. Kanungo looks at the use of information technology in rural and underserved settings. The article is a case study of an information village project in the Pondicherry district of India, where many of the villagers live below the poverty level. The author looks at the impact of the establishment of knowledge centers on the villagers. The author found that the more valued outcomes were those that were emancipatory in nature (e.g., improved access to markets through the availability of prices and marketing information). Kanungo’s article thus illustrates the fourth and fifth principles very well. It also illustrates the first principle (uses Habermas’ theory of communicative action), and the second principle: “the empowerment and enfranchisement of the dispossessed and poorest of the poor” was a premise of the project. However, the article is weak in relation to the third and sixth principles. Kanungo does not discuss existing beliefs nor practices in rural India or how they emerged. Although the article implicitly challenges prevailing beliefs and established social practices of rural Indian society, they are not articulated and challenged explicitly as the third principle would suggest.

Kvasny and Keil use Bourdieu’s theory of habitus and forms of capital (economic, cultural, and symbolic) as a theoretical base (first principle), which serves their objective of ques-
tioning “the taken-for granted assumptions about the digital divide” (third principle). They examine the efforts undertaken by two U.S. cities—Atlanta and LaGrange, Georgia—to redress the digital divide. The authors agree with the overall aims of these initiatives, that is, to reduce the gap between the information “haves” and “have-nots” and hence to improve social justice and equity (second principle). However, the authors found that simply providing free technology access is an oversimplification of the digital divide problem. Rather, educational and counseling programs are needed to precede and accompany the provision of ICT resources. This must include transportation to supportive and motivating learning centers as well as equipment and reliable Internet access for home use (fourth principle). To address longstanding and systemic patterns of spatial, political and economic disadvantage, one prerequisite requirement is a decent quality general education for participants (fifth principle). Kvasny and Keil conclude that the promotion of social access to IT for historically disadvantaged groups by municipalities at this time still represents an unrealized opportunity for strengthening many social services programs. The Kvasny and Keil article thus illustrates five of the six principles of critical research, with the sixth principle being the only one not explicitly discussed.

Table 5 summarizes how each of the three articles applies each principle. Although we consider all three articles to be good examples of critical research, clearly, some principles are exemplified better than others. The table indicates those principles that were not explicitly considered by the authors, thus suggesting areas for possible improvement.

**Discussion and Conclusions**

The six principles for the conduct of critical field research in information systems proposed in this paper help to define what makes critical research distinctive. Although some have questioned the viability and added value of critical research (Tsoukas 1993), a key contribution of this article is that it identifies defining characteristics for critical research and suggests how it can be conducted. The six principles of critical research articulate some of the differences between critical and interpretive research with respect to three prominent critical theorists. Therefore, we conclude that there are indeed three research perspectives, and not two, as some researchers have claimed. Hence, the first part of the conclusions will elaborate on this issue, namely, what are the similarities and differences between interpretive and critical research and how do they relate to each other and to positivist research? There has been considerable discussion and debate about this issue, as noted by Richardson and Robinson (2007). The second part of our conclusions will address the question of the added value of critical research. The third part discusses the contribution of this article for strengthening critical research.

### The Similarities and Differences Between Interpretive and Critical Research

During the debate about the relationship between interpretive and critical research, essentially three views have emerged. The first suggests that interpretive research is very similar to critical research, with the difference being a matter of emphasis. For example, Tsoukas (1993) questions the distinctiveness of critical research, saying that he is unable to see what added-value it provides to interpretive research. Both interpretive research and critical research are similar in the sense that they explicitly recognize the double hermeneutic in social research (i.e., that social research stands in a subject-subject relation to its field of study). Hence, the first perspective sees critical research as being little different to interpretive research.

The second perspective suggests that there are different degrees of interpretive and critical research, ranging from pure interpretivism to strong critical research. Although the extreme ends of the range might be quite distinct, in the middle there might be some common ground. Doolin and McLeod (2005) fit into this category. They argue for “critical interpretivism” as a middle position between pure interpretive research and critical research. Earlier, Myers (1994) proposed critical hermeneutics as an integrative framework with which Doolin’s critical interpretivism has many similarities.

The third suggests that critical research is different from interpretive research. In this perspective critical research is seen as a third type of research philosophy or epistemology, as distinct from positivist research and interpretive research (Orlikowski and Baroudi 1991). Ngwenyama and Lee (1997) describe the added value and additional insights that can be obtained from critical social theory vis-à-vis interpretive research. Hence, the third perspective sees critical research as distinct from interpretive research and as having its own unique philosophical foundation.

Our framework, comprising three elements and six principles, best supports the third perspective described above. Although the ontology of critical research does show similarities with interpretivism (see Hirschheim and Klein 1989; Myers 1997b; Orlikowski and Baroudi 1991), we believe that critical research represents a distinct research philosophy for the following reasons.
Table 5. Overall Assessment of the Three Critical Research Articles

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<tr>
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<tbody>
<tr>
<td>1. The principle of using core concepts from critical social theorists</td>
<td>Uses Foucault’s relational conception of power</td>
<td>Uses Habermas’ theory of communicative action</td>
<td>Uses Bourdieu’s theory of habitus and forms of capital</td>
</tr>
<tr>
<td>2. The principle of taking a value position</td>
<td>Not explicitly considered</td>
<td>Advocates the empowerment of poor people in India</td>
<td>Advocates the reduction in the gap between the information “haves” and “have-nots”</td>
</tr>
<tr>
<td>3. The principle of revealing and challenging prevailing beliefs and social practices</td>
<td>Reveals the surveillance process which increased the visibility of resources</td>
<td>Not explicitly considered</td>
<td>Questions the taken-for-granted assumptions about the digital divide</td>
</tr>
<tr>
<td>4. The principle of individual emancipation</td>
<td>Not explicitly considered</td>
<td>Reports on the improved access to information and markets</td>
<td>Recommends educational and counseling programs to accompany the provisions of ICT resources</td>
</tr>
<tr>
<td>5. The principle of improvements in society</td>
<td>Not explicitly considered</td>
<td>Reports on the overall improvements in rural India</td>
<td>Makes recommendations for addressing longstanding and systematic patterns of political and economic disadvantage</td>
</tr>
<tr>
<td>6. The principle of improvements in social theories</td>
<td>Surprisingly, the same system used for surveillance can also be empowering</td>
<td>Not explicitly considered</td>
<td>Not explicitly considered</td>
</tr>
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</table>

First, critical research relies on a strong theoretical base including taking a value position, whereas this is not mandatory for interpretive research. In fact in some kinds of interpretive research, for example, grounded theory of an interpretive nature, having a priori theoretical categories is sometimes actively discouraged (Charmaz 2000; Urquhart 2001). This difference can be explained by the lineage of critical research that includes a strong Kantian heritage. Because of this lineage, critical theories rely more readily on a priori categories from outside the study domain giving it a quasi etic feature, although contemporary critical research does not treat the etic categories as some sort of truth a priori. Rather they must be used as fallible guidelines for orienting the researcher in the processes of data collection, interpretation, and deriving conclusions.

The second dividing line between the two is the element of transformation. Whereas the elements of insight and critique focus on the way things are, the element of transformation focuses on the way things could be. Of course, what we are able to do is constrained by the conditions that exist now. Nevertheless, the hesitation of interpretive research to suggest specific social improvements is well known. This may very well be the reason why Alvesson and Deetz (2000, p. 17) characterize the element of insight as being primarily committed to achieving “local understandings closely connected to and appreciative of the lives of real people in real situations.” Therefore, we cannot agree with the aphorisms that “to reveal is to critique” and “to critique is to improve” without further qualification. However, the pure interpretivist’s reluctance to engage in suggestions for social improvements does not mean that interpretive research is less valuable; the question is simply how much IS researchers want to get involved in the transformative task of suggesting improvements.

A third difference between interpretive and critical research is that the philosophical basis of the former is logically more coherent than that of the latter. As already noted, there is much diversity within the critical research philosophy and a single coherent theoretical foundation does not exist. We have achieved some coherence of the critical literature in this article by limiting it to some of the works of three authors. The results of this approach suggest that a set of consistent principles for critical research can capture a fair amount of common ground between alternative critical schools of thought, their shared essence as it were. Yet the much greater diversity of critical research would become obvious if we were to cast a wider net and look for principles elsewhere—for example, the postmodernism of Derrida and Lyotard, or the Christian philosophy of Dooyeweerd (Clouser 1991;
Dooyeweerd 1955). Of course, nothing precludes others from suggesting other sets of principles derived from a different subset of critical writings.

Hence, we conclude that critical research represents a different research philosophy from interpretivism. However, we acknowledge that there are some areas of overlap. For example, the first element of critical research is similar to the insight that might be obtained via interpretive research. Also, the principle of suspicion proposed by Klein and Myers (1999) for interpretive research goes beyond pure interpretivism “because it points the researcher to ‘read’ the social world behind the words of the actors, a social world which is characterized by power structures, vested interests and limited resources to meet the goals of various actors who construct and enact this social world” (p. 78). This is the kind of analysis that is envisaged in the second element of our framework.

Having discussed the relationship between interpretive and critical research, we now need to discuss how they both relate to positivist research. The affinity between interpretive and critical research is much closer than that of either one to positivist research for the following reasons. First, whereas positivist research adheres to the principle of the universalist methods of science, which denies any fundamental difference between the natural and the social sciences, both interpretive and critical research affirm such a difference. This is most evident in the phenomenon of consciousness by which humans meaningfully structure the world and their own experiences, whereas most scientists would agree that natural objects, including most animals, do not.

This in turn leads to a second fundamental difference known as the double hermeneutic. Giddens describes the double hermeneutic as follows:

Sociology, unlike natural science, stands in a subject-subject relation to its “field of study,” not a subject-object relation; it deals with a pre-interpreted world; the construction of social theory thus involves a double hermeneutic that has no parallel elsewhere (Giddens 1976, p. 146).

What the double hermeneutic recognizes is that the social scientist does not stand, as it were, outside of the subject matter looking in; rather, he or she must struggle to grasp a world that has already been meaningfully prestructured by a group of fellow human beings. He or she does not study natural phenomenon such as trees or clouds from the outside. Rather, the only way a social scientist can study people is “from the inside.” That is, he or she must already speak the same language as the people being studied (or, at the very least, be able to understand an interpretation or translation of what has been said). The double hermeneutic recognizes that social researchers are “subjects” and are just as much interpreters of social situations as the people being studied. This has the further consequence that social and cultural research creates a feedback loop to the domain of study in two ways: by the research process, and by the results of the research. As subjects interact with the researchers during the investigation and interpret what they are doing, they may change their own understanding of the world and with that their behaviors. No such emergent understanding effect is present when researchers study pests on trees or particles of a cloud. When the research is completed, the results can fundamentally alter the future behaviour of the subjects. Therefore any regularities found hardly ever assume the status of unchanging natural laws; they are inevitably contingent.

It is, therefore, easier to bridge interpretive and critical research. However, this does not mean that positivists researchers with their own research methods are prevented from also providing critical insights if they pick up on issues found to be significant by interpretive or critical researchers. While this is possible in principle, it has not happened as yet. Perhaps this article will encourage such fruitful cooperation. Also, we do not mean to imply that the three research philosophies are mutually exclusive, as was originally claimed by Burrell and Morgan (1979); in fact, in a concrete research project, it may be possible to integrate elements from another research philosophy, albeit not in an arbitrary manner. Additionally, we hope it is clear from the above discussion that critical research does not regard other research philosophies as illegitimate. While critical research is a distinct research philosophy, many critical researchers recognize the value of both positivist and interpretive research, as long as “no claims are made for their exclusive validity” (Lyytinen and Klein 1985, p. 229).

The Added Value of Critical Research

The second part of our conclusion addresses the question of what is the added value of critical research. Critical research can add four potential contributions to IS research that are typically not addressed in positivist and interpretive research projects.

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3The well-known Heisenberg effect does not operate in this way. Particles change their behavior depending on how the measurement process is constructed, but they do not “learn” new meanings from the researchers “manipulating” them. By contrast, human subjects interact with the researchers on equal linguistic terms during the research process (i.e., when “instruments” such as questionnaires or interviews are applied).
First, it directs the attention of all researchers to the importance of fundamental criticism (Etzioni 1968). The role of fundamental criticism is to question taken for granted, widely accepted assumptions at all levels of analysis: individuals, groups, organizations, institutions, and society. As an example, for the effectiveness of fundamental criticism at the societal level, consider the abolition of slavery or the development of women’s rights in the 20th century. Fundamental criticism naturally extends the scope of IS research from the organizational level to the societal level since many of the fundamental beliefs and norms originate in societal institutions such as government, schools, churches, and professional associations.

Second, critical research appears to be the only research philosophy that moves values to the very core of research projects (principle two). In order that fundamental criticism does not degenerate into a destructive negativism, it must be tempered by an explicit value position and by the attempt to identify viable improvements to the status quo, be it at the micro or macro level (as proposed in the element of transformation). This is not a license for critical theorists to impose their own preferred values, but an injunction to consider the merits of alternative ethical positions (because at this point, at least, no universal ethics exist). The assessment of questionable social conditions of human existence from alternative value positions would naturally go hand in hand with fundamental criticism. A particular ethical concern of critical research is to give a voice to marginalized or disadvantaged groups, as Cecez-Kecmanovic (2005) and Richardson and Robinson (2007) have recognized. This fits with recent calls for the IS research community to raise its awareness and efforts in addressing the needs of underserved communities (Desouza et al. 2006).

Third, although critical research is likely to be more appropriate with some research methods than others, for example, ethnography (Myers 1997a; Thomas 1993), the element of transformation suggests that those research methods that involve some kind of intervention in the real (or virtual) world could be fruitfully informed by critical research. In fact, critical research may enable action researchers and design science researchers to consider the social and ethical aspects of their interventions more fully (see Stahl and Brooke 2008).

The fourth way in which critical research can add value to the results of an interpretive research project has been shown by Ngwenyama and Lee (1997). By reanalyzing a previously published interpretive critique of information richness theory, they demonstrated how a critical theory of communicative action can add important meanings to data interpretation that were missed in the earlier study. The richer meanings include not only those attributed by the speaker, but also those lodged in the social order, which entice people to speak (or not to speak) or act (or not to act) in certain ways.

The Contribution of this Article for Strengthening Critical Research

The final part of our conclusion summarizes the contribution of this article for strengthening critical research. Some researchers have noted that critical research appears to be struggling in the field of information systems, given the lack of legitimacy of critical research, the lack of an agreed theoretical basis, and the lack of clarity of the aims of critical research in IS (Kvasny and Richardson 2006). Richardson and Robinson call for the critical school in IS to develop its own voice and to more clearly define itself with respect to other approaches. This article has attempted to address some of these issues.

First, it has defined what is unique about the critical research philosophy, provided a theoretical framework for critical research, and proposed specific aims for critical research in information systems.

Second, by having pointed out the unique past and potential future contributions of critical research, it may help to increase its legitimacy. Both of these contributions should encourage more researchers in IS to further develop their own critical stream of research without, we hope, limiting diversity.

Third, from our argument it would follow that the number of critical research publications is not the only measure by which we should assess their importance; equally, or perhaps even more important, is the impact that this type of research has on the richness and depth of the discourse within the field. Therefore we agree with Richardson and Robinson (2007) that it is unwarranted to speak of a “missing paradigm” within the IS journal literature, as the Chen and Hirschheim (2004) survey results would indicate. Nevertheless the underrepresentation of the importance and influence of critical research in numbers is a valid concern (Chen and Hirschheim 2004; Falconer 2008; Richardson and Robinson 2007). To address this concern, our principles are designed to help increase both the number of critical research articles and the depth of penetration with which critical researchers dissect their domain of investigation. This in turn will strengthen and enrich their contribution to the IS research literature. Last but not least, we hope that the advances made in this paper will stimulate further reflection and debate on the importance of critical research and how its quality can be assessed and improved.
References


References


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