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Critical Approach in Information Systems Research: The Differences that Matter

Dubravka Cecez-Kecmanovic
University of New South Wales

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Dubravka Cecez-Kecmanovic
School of Information Systems,
Technology and Management
UNSW, Sydney, NSW 2052
Australia
Email: dubravka@unsw.edu.au

Abstract

Critical IS research encompasses a wide range of diverse research endeavours that frame their purpose in the context of critical theoretic concerns, such as domination, power and control, on one hand, and liberation, empowerment and emancipation, on the other. Critical social research has eminently practical and essentially democratic purposes. It seeks to achieve emancipatory social change by explaining 'a social order in such a way that it becomes itself the catalyst which leads to the transformation of this social order' (Fay 1987, p. 27). In doing so critical IS researchers are challenging the established regimes of truth and norms of knowledge production in both the IS discipline and IS practice. However, compared to positivist and interpretive approaches, critical IS research has not as yet been accepted as an equally valid and legitimate option. To address these concerns the paper revisits the distinguishing characteristics of the critical IS research scholarship, its purpose and theoretical foundations, and specifically examines the methodology question.

Keywords: IS research approaches, Critical IS research, Critical theory, Critical research methodology.

INTRODUCTION

Critical Information Systems (IS) research has emerged as the so-called third path in IS research following the critical tradition well established in philosophy, sociology, education, anthropology, and to a certain degree in management (see e.g. Friere 1976, Apel 1979, Held 1980, McCarthy 1982, Bernstein 1983, Habermas 1984, 1987, Fay 1987, Alvesson and Deetz 2000, Kincheloe and McLaren 2000, Alvesson and Willmott 1992, Morrow and Brown 1994, Habermas 1996). Compared to the long established positivist research approach and more recently recognized interpretive approaches, the critical research approach has not yet reached the stage of an equally valid and legitimate option in the IS discipline (Mingers 2003). Such situation can only partially be explained by the dominance of positivism and institutional barriers to non-positivist research (such as selection policies of major IS journals and conferences, politics involved in PhD supervision and examination, and academic rewards and promotions in universities). As critical IS researchers we have to take our share of responsibility: we have failed to inform the wider IS community of what 'critical research' means, in what ways it differs from both positivist and interpretive approaches and why it matters. Most importantly, we have not yet convincingly demonstrated how valuable critical research contributions might be not only to the IS community but more broadly to individuals, organisations and society.

Motivated by these concerns, this paper aims to revisit the distinguishing characteristics of the critical IS research scholarship and specifically reflect on methodological issues that have been subject of considerable debate among the critical scholars (see e.g. the Information Systems Journal Vol 15, No 2). To achieve these aims the paper first discusses the purpose of critical IS research as one of its most prominent distinguishing features. This is followed by a comparative analysis of the nature and role of theory in positivist, interpretive and critical IS research approaches. The paper then examines the methodological issues, specifically addressing the quest for a distinct 'critical research methodology' (Klein 1999, McGrath 2005). The paper intends to contribute to better understanding of the nature of critical inquiry and the on-going debate regarding its validity and legitimacy in the IS community.

THE PURPOSE OF *IS* RESEARCH

Perhaps the very basic question in any research is: Why should (does) one conduct scientific research? What are the motivations for conducting IS research? Compared to the positivist and interpretive approach, the critical research approach provides a fundamentally different answer to these questions.

Based on the premise that there is only one science and that natural and social sciences share a common set of principles and one logic of science, the positivist social science aims to discover regularities or causal laws that explain and predict phenomena in social life. The contemporary positivist spirit 'continues to adhere to a

philosophy of science that attributes a radical unity to all the sciences (Crotty 1998, p. 27). Scientific discoveries together with technological developments are seen as instruments and driving forces of progress. Following the tradition of positivist social science, the purpose of positivist IS research is scientific explanation of phenomena and discovery of objective cause-effect relationships or universal causal laws in three major domains: a) planning, development, diffusion and implementation of information systems within and across organizations, b) operations and management of IT infrastructure, information resources and IS structure, and c) the relationship between and the effect of information systems on human beings, business processes, organizations and society. It is believed that such laws are useful for effective control and prediction of information systems development and use, users' behaviour and attitudes towards information systems (such as user acceptance).

In contrast to instrumental orientation of positivist research, the purpose of interpretive IS research is to understand information systems in their social context – how they are embedded in, how they impact on and are impacted by the context. In Walsham's words (1993), interpretive IS research aims at:

> producing an understanding of the *context* of the information system, and the *process* whereby the information system influences and is influenced by its context. … Context is concerned with the multi-level identification of the various systems and structures within which the information system is embedded. This can include such obvious elements as the organizational department within which the system is being used, the organization as a whole, and the various sectoral, national and international contexts within which the organization is located. A more subtle set of contexts for an information system are various social structures which are present in the minds of the human participants involved with the system. Their representation of reality, their shared and contested sense of the world, create complex interacting contexts within which the information system, as a human artefact, is drawn on and used to create or reinforce meaning. (pp. 4-5, emphasis in the original)

For instance, an interpretive researcher is interested in studying the processes of information system development and implementation in a particular social, organisational, political and cultural setting. The interpretive researcher does not only study and describe the observable behaviour (for example of IS users or developers), but also aims to understand people's feelings, values, norms, interests, motivations and actions. The researcher immerses her/himself into a field site in order to gain personal experience how people construct meanings in natural settings and how information systems impact on subjective and intersubjective meaning creation.

While interpretive researchers aim to understand and describe multiple meanings ascribed to an information system and its impacts in a single or in different contexts, critical IS researchers:

> go further to expose inherent conflicts and contradictions, hidden structures and mechanisms accountable for these influences. Critical IS researchers aim to reveal interests and agendas of privileged groups and the way they are supported or protected by a particular information system design or use. More generally, they aim to discover and expose attempts to design and (mis)use IS to deceive, manipulate, exploit, dominate and disempower people. By doing so they aspire to help them resist these attempts, hinder such misuse of IS and promote liberating and empowering IS design and use (Cecez-Kecmanovic 2001, p. 143).

Critical IS researchers criticise positivist IS research for being instrumentalist and for serving, often unwittingly, the interest of dominant groups. They charge positivist IS research for defending status quo and ultimately reinforcing power structures and strengthening managerial control over organisations and people's lives. Critical IS researchers also charge interpretive research for accepting the status quo and being too relativist and too passive; for seeking merely to understand social reality instead of 'acting upon it'. In contrast, the purpose of critical social research is to change the world – actors, information systems, organizations and society, including their dynamic, complex and emergent interrelationships. As expressed by Alvesson and Deetz (2000):

> Critical social research is … oriented towards challenging rather than confirming that which is established, disrupting rather than reproducing cultural traditions and conventions, opening up and showing tensions in language use rather than taking surface consensus as a point of departure. The intention is thereby to contribute to emancipation, for example, to encourage rethinking and the emotional as well as cognitive working through of ideas and identities which are repressive. Alternatively and less optimistically, the enterprise may be seen as one of fuelling resistance to those powers defining who we are, what we should be and aspire to, and how we should live our lives as normal and well-adjusted persons. (p. 9)

The specific purpose of a critical IS research project ranges from creating knowledge as a catalyst for change, to helping and giving voice to various marginalized IS user groups or stakeholders in IS development, implementation and use, to playing an active role in transforming IS practices and IS-organization relationships, and assisting actors in emancipating themselves. This is based on the belief in the power of knowledge – in the capacity of knowledge produced by research to enlighten and engender action. It is also based on the conviction that it is not only legitimate but that it is indeed an obligation for a researcher to actively engage in the

transformation of IS practices that will contribute to a more democratic workplace with greater degree of autonomy and human agency, and ultimately lead to less repressive and more equitable social relations.

For example, by revealing and explaining how an information system, supposedly implemented with the purpose to increase business processes efficiency and effectiveness, in fact increased control and decreased autonomy and human agency, IS researchers aim to assist less powerful actors in actively engaging in and affecting IS development and implementation processes. By revealing to what extend any information system design is inscribed by certain interests and values, IS researchers seek to achieve critical enlightenment regarding the value-laden and political nature of the information system. The resulting insights into the nature of an information system and the way it impacts on work practices, employees' autonomy, social and power relations, and control by dominant groups, could – critical researchers believe – help employees to better understand IS-imposed or reinforced constraints and seek emancipation from them. More generally, by demonstrating how implementation of an information system is in fact a powerful agent of organizational transformation and how it implies functional/economic systems' change as well as the change in the social lifeworld of organizational member, critical IS researchers aim to expose both its dangers and its benefits and thereby introduce a 'discourse of possibility' in the IS practice (Cecez-Kecmanovic et al. 2002).

The liberatory and emancipatory purpose as a hallmark of the critical approach has however been disputed in IS research. Charges range from utopianism, to arrogance, to illegitimacy of research objectives, to impossibility of achieving the desired emancipatory outcomes. Objectives such as participation of disenfranchised in the IS development; development of information systems that liberate and enhance human potential rather than repress and colonize human beings; or transformation of IS practices that will lead to reduced domination and control by the powerful and achievement of more equitable social relations, may indeed appear utopian. Nevertheless, critical IS researchers believe such objectives are worthy of pursuing even if they are only partially achieved. The desired outcomes may not necessarily be achieved in a particular context studied but the issues raised by critical research, knowledge gained and lessons learned may inform and enlighten other actors in other contexts.

Finally, as critical researchers we need to be cautious with conceptualizing emancipation. For instance, those who aimed at 'emancipating others' have justifiably been accused of arrogance. We need to critically reflect on the emancipatory objectives and especially our own position within a particular research context and our relationship with subjects involved. Self-reflection is especially pertinent as we realize that 'no one is ever completely emancipated from the socio-political context that has produced him or her' (Kincheloe and McLaren 2000, p. 282).

As we argued above that the purpose and objectives of the critical IS enquiry differ from those of positivist and interpretive IS enquiries we raised several implications and concerns. Perhaps among the most important issues for critical IS researchers are the questions of theory and methodology which we discuss in the following sections.

THE NATURE AND ROLE OF THEORY IN *IS* RESEARCH

Theory in Positivist IS Research

Explanation or theory in the positivist social science is law-like or *nomothetic* (*nomos* in Greek means law). A theory in social science describes social phenomena in the form of formal expressions of causal relations – scientific statements similar to natural sciences. As a set of interrelated causal relations or laws a theory in IS is developed to explain, make predictions and control IS phenomena in organisations. For instance, a causal relationship between task—technology fit (TTF) and individual performance (Goodhue and Thompson 1995) indicates to IS managers that increased performance can be achieved through improved TTF. A theory is built and repeatedly tested by showing that it does not have logical contradictions and that it is consistent with objective facts.

By testing hypothesis against replicated observations, positivist researchers derive conclusions that support or refute causal relations. Consequently, by being subjected to potential *falsification,* scientific statements are further refined into more accurate statements (Popper 1934). Replication is vital for checking and refining scientific statements in researchers' 'unending quest' for discovering causal laws, universal across time and space. Building such causal laws requires description of the social life in the form of well-defined and precisely measured constructs, variables and their relationships. Based on the assumption of the objective and value-free science, a theory is characterized by precision in terms of the constructs, variables, axioms and theorems, as well as language used to describe them. Scientific, discipline-based language is preferred over the vague and imprecise everyday language of ordinary people (Blaikie 1993).

Being nomothetic, positivist social science is concerned with generalizability of a theory or theoretical statements. A theory is developed by employing hypothetic-deductive logic whereby a theory's propositions are tested for mutual consistency and also empirically –whether they are consistent with the objective facts from the reality. Positivism's assumption about generalizability of a theory across different settings is often taken uncritically and applied inappropriately. 'A theory – as Lee and Baskerville (2003) thoroughly explain – may never be scientifically generalized to a setting where it has not yet been empirically tested and confirmed' (p. 240). The only way for a researcher to properly claim that 'the theory is indeed generalizable to the new setting would be for the theory to be actually tested and confirmed in the new setting' (p. 237).

Theory in Interpretive IS Research

In contrast to the positivists' striving for nomothetic laws, the interpretive researchers aim to develop *idiographic* theories pertaining to individuals (*idios*) in specific social settings and time periods. A theory provides detailed descriptions and interprets the experiences, values, norms, meanings and interpretive schemes, etc. of individuals and groups in their daily lives. Unlike a theory in the positivist social sciences, interpretive theory does not specify universal laws holding for aggregates of people. Instead it provides in-depth insights into specific social, cultural and historical contexts within which particular events and actions are described and interpreted as grounded in the authentic experiences of the people studied. An interpretive theory of the user acceptance of a newly implemented information system would, for instance, describe and interpret processes of system introduction in a particular social and cultural context and how the users' participation in the information system design impacted on their appropriation/rejection and subsequent use of the system. While such a theory would be specific to the context and applicable to a particular setting it is considered valid and legitimate. Most interpretive researchers would agree that the first aim of theory building in an interpretive study is within a particular setting:

> Generalizing within a setting [in interpretive research] stands in contrast to the positivist conception of generalizability… Where the study of a single setting … is an interpretive researcher's objective, generalizing within a setting is not better or worse than, but simply different from, generalizing across settings for a positivist researcher. (Lee and Baskerville 2003, p. 231)

Issues of generalizability are closely related to a theory development and testing. An interpretive theory developed in a particular setting is obviously first tested in a setting in which it is developed – it is judged as truthful or adequate by the people studied if it makes sense for them. A theory, however, is also tested by its capacity to convey a deep understanding of the phenomena and actors studied in a particular social setting to other actors beyond this setting. In other words, explanatory power of an interpretive theory depends on the degree to which its description and interpretation transcend a particular context and translate into a form comprehensible to readers that did not participate in the study. The more a theory provides 'thick' descriptions, that is, the more it captures colourful, vivid and authentic details from the context, the easier it becomes for the reader to achieve a deep understanding of the meanings of actions by the people involved, and get a feel for another social reality or 'form of life'. In such a way a theory becomes meaningful to actors in other contexts.

The question whether interpretive theory construction can and should ultimately also try to generalize across different contexts is very controversial and it is an unresolved issue what the proper methods for this could be. For example, Heidegger wrote about the meaning of human life in general and when he addressed "The Question Concerning Technology" (1977), he did not limit himself to a specific setting or time period. This appears to be lending support to attempt theoretical generalization across settings, but in different ways than positivists' covering laws suggest. This position is supported by Walsham who argues that validity of knowledge claims from individual cases does not depend on 'the representativeness of these cases in a statistical sense, but on the plausibility and cogency of the logical reasoning used in describing the results from the cases, and in drawing conclusions from them' (1993, p.15). Furthermore, Klein and Myers (1999) proposed that empirical findings (idiographic details revealed by the data interpretation) can be generalized to theoretical, general concepts as explained by the 'principle of abstraction and generalization' (one of seven principles for interpretive field studies) (p. 72).

Theory in Critical IS Research

The critical IS research has critical social theory as its philosophical and theoretical foundation. Critical social theory is not a theory or a school of thought. The term critical social theory[1] denotes a range of critical

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[1] Critical social theory as the term is most often related to the Frankfurt School. Namely, motivated by Marks, Kant, Hegel and Weber, the idea of a critical theory was first outlined by the Frankfurt School theorists as a distinct form of theory – contrasted to 'traditional', metaphysical or materialist theories. The first generation of the Frankfurt School critical theorists, most notably Adorno, Horkheimer and Marcuse, criticized philosophy for its blindness to the material conditions of life and social relations as well as for its inability to offer a truly critical approach to concrete social problems and the struggle of the oppressed groups to change their positions. A truly critical theory, they proposed, is not restricted to pure thought and critical theorists are never satisfied with merely increasing knowledge (Horkheimer, 1972).

approaches and theories and is not reducible to any fixed set of assumptions and prescriptions. Critical IS researchers have been inspired by and have adapted and applied a diverse range of concepts, theories or theoretical frameworks from critical social theory. Typically critical empirical IS studies appropriate (and instantiate) a particular social theory to specific organizational and institutional IS contexts (for instance Ngweniama and Lee 1999, applied Habermas' Theory of Communicative Action, 1984). In such a way they also contribute to the theory development.

A theory in critical social research is neither an abstract, law like representation of the social world nor a more or less thick description and explanation of it. A theory is rather seen as a map of the social world that helps investigating and understanding it, sufficient for acting upon it and changing it. A theory in critical social research is a way of being in the world: it is accepted by a social community if it provides interesting and appropriate concepts, models and frameworks for seeing social phenomena that are useful in dealing with these phenomena. The basic functions of a theory suggested by Alvesson and Deetz (2000) are:

> *directing attention, organizing experience,* and *enabling useful responses.* Can we see differences that make a difference? Can we form and recognize patterns that specify what things are and how they relate? Can we make choices that not only enable us to survive and fulfil needs but also to create the future we want? (p. 41; emphasis in the original)

A theory directs our attention by providing a conceptual apparatus that makes certain distinctions relevant and certain differences visible. Different theories emphasise different things that matter and guide our attention to different details of importance. What is at issue here is not which one is a more accurate representation of the 'real' thing, but rather the 'choice of distinctions to be used, [and] the differences that matter' (Alvesson and Deetz 2000, p. 42).

To deal with specific issues in IS practice, such as those in IS development, implementation and use, critical IS researchers typically endeavour to develop IS specific theories by drawing from the wealth of critical social theory and by appropriating specific concepts, models and frameworks. Their choice of a particular critical theory depends on its relevance for a given research domain (e.g. an organisation theory vs. a theory of society) and on its capacity to inform and guide researchers in achieving their objectives. For example, a theory is considered relevant and useful if it:

- describes the relevant underlying structures of social and material conditions and explains how they shape and determine the nature and content of an IS and the ways it mediates work

- assists in demystifying the myths of technological determinism and inevitability of particular IS designs

- enables exposure of taken-for-granted assumptions behind an IS design (implementation or use) and interests and values it inscribes

- provides an insight into the broader social, organizational and political implications of the proposed/used information system

- enables both researchers and the researched in seeing or envisioning the desired changes – in working conditions, business processes, decision-making, organizational appropriation of IS, IS design and use, etc.

A critical theory in the IS research provides concepts and models that not only enable description and explanation of deeper and hidden layers of social reality and material conditions that determine an IS design and implementation, it also enables seeing them from a particular angle: how they affect those subordinated, controlled, manipulated or disadvantaged. A critical IS theory enables a particular way of seeing and endorses certain values and interests. It is in the interest of some groups and against some others. Furthermore, a critical theory organises researchers' experiences and helps both researchers and the people studied identify patterns from their empirical observations. It also helps them search for useful responses, envision change and struggle for alternative approaches to IS design or appropriation, leading to more meaningful working conditions, improvement of business processes through increased discretion and autonomy and democratization of workplace relations.

Critical theorizing in IS aims at fostering reflexivity, a capacity for change and a new basis for IS praxis in organizations, which is not only governed by instrumental rationality, managerialist ideology or technological determinism. Critical IS researchers take issue with the overdue influence of instrumental rationality and technological determinism on current management and work practices, in particular if this influence is unreflected or even purposefully concealed by ideology and vested interests. Informed by critical social theory IS

Instead, a truly critical theory is involved with the present social conditions and materializes by employing the conception of reason as a 'critical tribunal' (Marcuse, 1968). Critical theory has been developed further through the works of the second generation critical theorists, primarily Habermas (1984, 1987, 1996) and Apel (1979). Beyond the Frankfurt School, critical theorists such as Honneth (1995) in Germany and McCarthy (1982) and Benhabib (1986) in the USA, are sometimes referred to as the third generation.

researchers have criticised positivist conception of IS as tools that serve managers' goals and enable efficient control of processes and resources. Critical IS researchers have also criticised interpretivists' passive watching and 'impartial' documenting of experiences of IS practices dominated by asymmetrical power relations, managerialist ideology and instrumental rationality. Critical IS researchers claim that by avoiding value judgements and by relying on informants' subjective views and experiences regarding IS development and use – coupled with the absence of historical accounts and deeper insights into the material conditions and social structures that shaped their views and experiences – the interpretive IS researchers inadvertently legitimate the dominant power structures and managerialist ideology embedded in IS design, implementation and use. By adopting critical social theory as its philosophical and theoretical foundation critical IS research offers a hope for emancipatory forms of IS research (see e.g. Hirschheim and Klein 1994).

Key questions for critical IS researchers include the relationship between theory and practice and how knowledge is produced and used. While the role of a critical theory in IS is to reveal distorted consciousness and hidden forms of domination and oppression achieved through or assisted by the use of information systems, the theory also derives its validity from its role in informing and actively engaging in the transformation of IS practice. The validity test for a critical IS theory is therefore in IS practice: Does knowledge produced motivate, empower and give ammunition to actors who struggle against the domination of instrumental rationality in IS development aiming to break managerialist hold over the content and objectives of information systems? Does (can) a theory inform or assist practical action (such as IS development and implementation) leading to emancipatory social change? Critical IS researchers therefore need to consider a different notion of research validity – *catalytic validity* – defined as the degree to which research informs and enlightens those it studies, assists them in gaining self-understanding and self-direction and enables them comprehend and change the world (Lather 1993, Kincheloe and McLaren 2000).

While a critical theory provides descriptions of how things (e.g. business processes, social and power structures, IS designs) are and explanations (historical, ideological, political) how they came to be and why, it also, and most importantly, informs practical actions (e.g. IS development and implementation). Testing the theory should not be understood as a single, distinct phase in theory development. On the contrary testing theory is 'a dynamic, ongoing process of applying theory and modifying it. Knowledge grows by an ongoing process of eroding ignorance and enlarging insights through action' (Neuman 2003, p. 85). Critical IS researchers have yet to demonstrate how and to what extent knowledge they produce informs and is informed by IS practice. The lack of empirical studies – involving application, testing and modification of a critical theory through transformation of IS practice – has been identified as a major weakness of the critical IS approach (Klein 1999; McGrath 2005). Apart from the dominance of positivism in IS research and difficulties in finding sponsors for critical research, the lack of critical empirical studies in IS can be partly attributed to the problem of critical research methodology, to be discussed next.

IS RESEARCH METHODOLOGY

Methodology is understood here in its philosophical sense as an overall strategy of conceptualising and conducting an inquiry, and constructing scientific knowledge. A research methodology therefore involves particular epistemological assumptions, ways of linking methods to a theory as well as norms and rules about knowledge production. As 'different ways of viewing the world shape different ways of researching the world' (Crotty 1998, p. 66), methodology in positivist, interpretive and critical approaches are significantly different.

Positivist IS Research Methodology

As positivist IS research seeks to discover and test law-like theories and causal relations among constructs that describe an objectively existing reality, the key epistemological assumption underlying positivist research methodology is empirical testability of causal relations and theories. Empirical research inquiries are required to examine whether hypothesised causal relations are supported/confirmed or rejected by empirical evidence. Negative or disconfirming evidence eliminates, while supporting evidence strengthens a hypothesis of a causal relation. Theories are developed and refined over time through replicated hypothesis testing, elimination of those not supported or confirmed by empirical evidence, generation of new hypothesis and so on, thereby contributing to accumulation of scientific knowledge. It is assumed that to achieve valid and generalizable hypothesis testing a researcher needs to apply appropriate scientific methods, such as sample surveys and controlled experiments, and faithfully follow their rules and norms for research design, empirical data collection, statistical data processing and creation of findings. Furthermore, many positivist researchers believe that following these sanctioned research methods 'is the only way in which valid knowledge can be obtained' (Orlikowski and Baroudi 1991, p. 10).

Research methods privileged by positivist research are based on the assumption that the measurements of empirical phenomena can be accurate and precise. It is assumed that good empirical evidence consists of objective facts that reflect reality and exist independently of personal values and biases. Objective facts are also independent of the researcher or the method used to capture or measure them. Sophisticated statistical models and techniques are developed and norms and due processes carefully applied and checked by the IS community in order to guard against value biases and guarantee a desired level of scientific rigor. Furthermore, the creation of factual knowledge results from many researchers and research studies, replicating hypothesis testing, and communicating findings in a cumulative fashion. This is based on the assumption that researchers, as rational individuals, assign same (or similar) meanings to independently observable facts, that is, develop shared acknowledgment of the facts.

Interpretive IS Research Methodology

Assumptions behind interpretive IS research methodologies are quite different. As evidence cannot be separated from the context and facts are not value-free and objective, IS research is inevitably situated in social practice of IS development and use (Walsham 1993, 1995, Klein and Myers 1999). Interpretive IS researchers believe that everyday social practices cannot be disconnected from and studied independently of socially created meaning systems and the language that actors use to describe and make sense of these practices. Interpretive researchers therefore use particular research methods, such as field studies, ethnographies, action research, discourse analysis, etc., to get inside the worlds and meaning systems of those being studied and obtain an in-depth understanding of their subjective beliefs, experiences, feelings and values. Instead of producing research findings as established facts, interpretive researchers are offering findings as interpretations. Research findings as interpretations are judged based on credibility of the research process, trustworthiness (as a parallel to objectivity) in the research design and the ways concrete empirical materials (observations, interviews, events) are analyzed and interpreted. A new understanding of the phenomena studied is judged based on the richness of descriptions, internal coherence, depth and insightfulness of interpretations and plausibility of results to a reader.

As to the links between a method and a theory, interpretive researchers generally assume that the people's subjective views and beliefs have primacy over the theories that may be 'imposed' on them. Interpretive researchers however differ in the way they interpret empirical data and derive explanations and theories. For instance, those applying grounded theory approach a field study without a theoretical model or a priori concepts and derive theory inductively from data, that is, ground a theory in the data (Glaser and Strauss 1967, Orlikowski 1993). On the other hand, an action researcher may start with and apply a theoretical model (e.g. of IS development methodology usefulness) and through action and learning cycles revise the model and produce empirical evidence to support it. Similarly, empirical material from ethnography can be analyzed from a particular theory perspective, thus resulting in theory-informed interpretations.

Critical IS Research Methodology

Considerable ambiguity surrounds the question of empirical research methodology in critical social sciences and by implication in IS. While some research methods and techniques are closely related to the positivist approach (such as experiments, surveys, and statistical modelling) and others to the interpretive approach (such as interpretive case study, ethnography and action research), this is not necessarily the case with the critical approach. The neglect of the methodological question, it is argued, posed a significant difficulty for critical researchers (e.g. in legitimising their claims to knowledge) and to some extent contributed to the marginalisation of critical research (Morrow and Brown 1994). The lack of specific critical research methods has been identified as an issue in critical IS research as well (McGrath 2005, Klein 1999). However, there is a renewed interest among contemporary critical researchers from different disciplines in the empirical dimension of critical research and the development of critical research methodology (Crotty 1998, Klein 1999, Kincheloe and McLaren 2000, McGrath 2005). These developments seem to emerge in two major directions simultaneously.

The first direction follows the model of positivist and interpretive research approaches and assumes that a distinct critical research approach needs to employ distinct critical research methods. Methods, such as *critical ethnography* (Myers 1997, Thomas 1993), *participatory action research* (Baskerville 1999) and *critical discourse analysis* (Fairclough 1992) are proposed as distinctly 'critical'. By going beyond cultural description and explanation, critical ethnography is concerned with '*cultural critique as defamiliarization* and *cultural critique as ideology critique*' (Morrow and Brown 1994, p. 255, emphasis in the original). This is achieved by grounding ethnographic work in *critical hermeneutics* (Thompson 1981, Vatimo 1994) and by infusing critical social theoretic concerns into hermeneutic acts of interpretation. Participatory action research can be also seen as a distinctly critical method to the degree to which it is linked to practical intervention and transformation of practice (such as IS development). The third research method, critical discourse analysis focuses on discourse

and interpretations of meaning sensitive to the forms of distorted communications linked to power and ideology (Fairclough, 1992)

The second direction of critical methodological developments and debate is more concerned with methodological choices and social and political contexts in which these choices are made. A critical research program sets an agenda and the types of explanatory substantive problems for which some methods are more appropriate than others, but the relationship is not deterministic. Critical research methodology is explicitly concerned with the choices about linking theories and research methods in any specific research context. Despite attempts to develop distinctly critical research methods, mentioned above, critical research is by no means limited to those methods perceived as critical. Critical approach to the question of research methodology is rather concerned with linking theoretical problems with the choices of methods, as Morrow and Brown (1994) explain:

> ...critical theory does require critical pluralism in that it directs attention not only to how the type of theoretical problems shapes the choices of methods but also to the political and ideological contexts of methodological choices as part of the process of non–empirical argumentation (Beardsley 1980). (p. 200)

Galtung (1977) in particular points to the political and ideological aspect of methodological choices:

> To work with any methodology … is a political act… the choice of a methodology is implicitly the choice of an ideology, including the mystifying, monotheistic ideology that there is but one methodology—the universal one. To the extent that we are *conscious* the choice is for us to make, not to be made for us, and to the extent that we are *free* for us to enact (Galtung, p. 40, emphasis in the original).

From this perspective critical IS researchers should be even more vitally interested in the methodological question. It is not so much the issue of distinctly critical methods (although it is also of interest) as it is the issue of conscious methodological choices and their implications for knowledge production and use. In particular, given critical researchers' belief that all research is part of the process of social (re)production, the uniqueness of critical methodology is associated with reflexivity (and especially self-reflection) and the dialectic relation between research and practice (Cecez-Kecmanovic 2001).

CONCLUSION

This paper identifies and reflects upon the distinguishing characteristics of the critical IS research scholarship and thereby contribute to better understanding of its nature, purpose and implications for IS research and practice. It examines some essential characteristics and distinctiveness of critical vis-à-vis positivist and interpretive research approaches, focusing on the nature and role of theory and research methodology. By engaging in a debate on the meaning of 'critical' and some key issues involved in critical IS inquiry the paper intends to make a contribution to identity building and legitimation of IS research. It also intends to encourage critical researchers to unapologetically report their research findings, reflect on their experiences, social roles and responsibilities, and in doing so scrutinize their research questions, methodological choices and relationship with IS practice.

It is important to note here that being 'critical' in IS research also means having a much broader historical, social, and political view of the IS discipline and seeing how economic and managerial interests, ideologies and discourses, assisted by educational and research funding institutions, shape and construct IS research. Critical IS researchers are concerned with the purpose, use and misuse of IS research outcomes in organizations and society. Future critical studies are called for to investigate IS research itself as a social activity – its practice, purpose and implications – from a critical theory perspective.

Once IS researchers take critical theory seriously and consciously infuse critical theoretic concerns into their studies, interpretations and understanding, the IS discipline could not emerge from such encounter unaffected. The purpose of research would be expended; a different relation to IS practice would emerge; the IS research itself would be seen as also a moral and political activity and researchers as 'transformative intellectuals' and social advocates. It will therefore become acceptable for an inquiry to aspire to the name critical and for research to become 'a transformative endeavour unembarrassed by the label political and unafraid to consummate a relationship with emancipatory consciousness' (Kincheloe and McLaren 2000, p. 291).

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