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December 1999

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Richard Southwick
Syracuse University

Steve Sawyer
Syracuse University

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Recommended Citation

Southwick, Richard and Sawyer, Steve, "Critical Views of Organization, Management, and Information Technology: Applying Critical Social Theory to Information System Research" (1999). *AMCIS 1999 Proceedings*. 60.
<http://aisel.aisnet.org/amcis1999/60>

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Critical Views of Organization, Management, and Information Technology: Applying Critical Social Theory to Information System Research

Richard Southwick and Steve Sawyer

School of Information Studies
Syracuse University
Syracuse, NY 13244-4100
Contact: rmsouthw@syr.edu
Tel: 315-443-2911 Fax: 315-443-5806

Abstract

The authors examine the use of Critical Social Theory in Information System research. A critique is developed through a comparison of existing use of theory with empirical evidence from the authors' recent research. Three questions form a basis for discussion. (1) *How do new, distributed information system environments fit within existing critical frameworks of organization and management?* (2) *How does current theory shape our understanding of information technology?* (3) *As researchers using CST, where should our focus be in studying IT processes?*

Overview

In this paper we examine existing views on the use of Critical Social Theory (CST) in Information System (IS) research. These perspectives have emerged within the literature of management and organizational study, where they have been predominantly in the form of ideological critique (of scientific approaches to research and oppressive structures of organizing), rather than as documentation of empirical research (Alvesson & Deetz, 1996). This is true for the literatures specific to the use of CST in IS research as well. In order to build viable programmes of research in this area, sustained efforts will be required toward clarifying theoretic constructs and developing methods for empirical study (Ngwenyama, 1991). Therefore, our discussion focuses on the applicability of prior theory. In particular, we hold a concern with the application of CST to research involving new forms of distributed information technology (IT).

To guide our discussion, we briefly review and critique the dominant themes underlying recent academic discourse on organization and management (relative to CST). Context is provided through empirical evidence derived from our recent studies of new distributed forms of enterprise computing (see Sawyer & Southwick, 1996; 1997). We did not apply critical theory in these studies.

Therefore, in referring to this research, we emphasize that our discussion in this paper is formed by our observations as they may relate to theory rather than as they are guided by it. In taking this approach, we cite the strong position of CST relating theory to practice. That is, rather than merely extending dominant theoretic viewpoints, critical theory must be open to the informing dynamics of practice (in order to lead to its improvement). We hope that our efforts here may stimulate discussion concerning the direction of discourse and, thus, of future research in this area.

We begin our discussion with a brief description of our recent research with some of the relevant findings. Discussion in the remainder of the paper focuses on how prevailing perspectives on CST may address issues of actual IT practice. Three questions are advanced for the purpose of structuring the discussion: (1) *How do new, distributed information system environments fit within existing critical frameworks of organization and management?* (2) *How does current theory shape our understanding of information technology?* (3) *As researchers using CST, where should our focus be in studying IT processes?*

Discussion: ERP Implementation

Sawyer and Southwick (1996; 1997) have documented the implementation of an enterprise resource planning (ERP) system at a mid-sized university. ERPs are designed to integrate core applications (e.g., accounting, human resources, manufacturing, inventory, etc.). These projects are typically large and technically complex, often requiring migrations from mainframe to distributed technologies such as client/server and Internet. The large scope, technical complexity, and requirements in adaptation of business processes all contribute to the typically long (multi-year) duration of ERP implementations. Some of the more interesting findings included:

- Technical complexity, especially near inception of the project, consumed the attention of technologists and managers
- The pace of innovation in the technology creates a discontinuous and hyperturbulent system development environment
- Stressful changes in internal relations between technology and functional groups developed as members of the organization struggle to adapt to the new technologies
- The technical environment is broadly distributed, creating a web of competing stakeholder interests

Discussion: Questions Linking Theory to Practice

(1) How do new, distributed information system environments fit within existing critical frameworks of organization and management?

Critical View: Within discourses of management and organizational study, a critical tradition has been formed through critique (see Deetz and Mumby, 1990; Alvesson and Deetz, 1996). Following a radical humanist perspective (Burrell & Morgan, 1979), works of this tradition cast the organization as a place of political conflict and oppression. Power imbued relations among organizational groups are formed through an ideological structuring of consciousness and identity in individuals. The theory of the Frankfurt School, especially that of Habermas, provides a critical framework for scholars to deconstruct these ideological structures.

Managerialism emerges as a pervasive theme in these critical approaches to organization. In this view, historically developed perceptions of management - i.e., as objective, and technically superior to others - form a dominant ideology for creation of the modern organization (Alvesson & Wilmott, 1996). The strength and depth of this ideology makes it a powerful source of management control, a motive in applying an instrumental rationality in management decision-making, and a means for engendering oppressive – conversely, consensual (Burawoy, 1979) - relations.

Critique: Haslett (1990) has criticized this view of organization, noting that "modern organizations are too complex and diverse to be subsumed under one political ideology" (p. 49). We add that modern organizations are mirrored in form by the information systems supporting them. This is evident in the trend toward distributed organizations; dramatically so with the rapid adoption of "web" technologies and the advent of "virtual" organizations. The modern computing environment

spawned by IT innovation and development trends defies both organizational boundaries and notions of localized control (Kling, 1987).

We cite evidence in our studies of the ERP environment. First, vendors of ERP software (e.g., SAP, Baan, PeopleSoft) typically implement using a packaged format ("bought versus built"). These vendors supply sets of pre-packaged application functionality following industry-wide "best practices". Local customization of the software is typically limited, requiring managers to alter business processes to adapt the organization to the system. Secondly, the nature of the technology - typically incorporating client/server and Internet capability - means that it is prone to constant and rapid innovation. Each of these aspects suggest that control over system implementation and development processes extends beyond the boundaries of the core organization. To the extent that such control may be ideologically driven, it becomes necessary to re-formulate definitions of ideology (i.e., sources of ideology) and context (organizational form).

(2) How does current theory shape our understanding of information technology?

Critical View: The critical perspective on organization has shaped interpretations of the role of information technology. IT is typically defined according to its communicative functionality - i.e., its ability to coordinate and control business process (Orlikowski, 1991). Through the lens of CST, coordination of organizational processes takes on a "darker side". That is, IT is assumed to be a tool for extending the hegemonic control of management through the application of instrumental modes of rationality in decision-making.

Critique: Our observations in studying ERP implementation lead us to believe that a presumption of pervasive underlying management interests in the design and use of IT provides an overly narrow perspective. We raise several points here. First, development processes are normally driven by forces outside the core organization: technical forces of innovation and the social forces of stakeholder interests (i.e., the interests of vendors and consultants). Second, we find uses of IT to be diverse and often emergent in nature. It seems difficult to justify an assumption that one may explain the broad range of IT application functionality in any single theory. Moreover, uses of new forms of IT (and other modern technology) may be as likely to emerge in practice as in design (Weick, 1990).

Finally, and most importantly, in forming a conceptual understanding of information technology one must understand it not only as a functional object, but also

as a process: a process subjectively interpreted as well as objectively defined. Social perspectives on technology are dominated by hypothesized relationships between IT functionality and organizational structures. We cite, for instance, popular views on assumed processes of “mutual adaptation” between organization and IT functionality (Leonard-Barton, 1988). We raise two issues in critiquing this view. First, we argue that a focus on IT functionality provides an incomplete picture of the phenomena, ignoring pre-installation processes of implementation. Our research in ERP implementation reveals a picture of IS technologists and managers immersed in a continuous and unceasing effort to adapt to uncertain technological change. Our observations lead us to believe that change has less to do with adapting to the functions of applications than to the implementation process itself. Second, such views are driven by organic visions of organization (Morgan, 1986) in which IT and organizational processes are assumed to converge (adaptively). We contrast this with a critical view of organization - i.e., formed in dissensus.

(3) As researchers using CST, where should our focus be in studying IT processes?

Critical View: There is little empirical research applying CST to IS research. As in organizational studies, most literature is in the form of critique. For instance, there has been work of this nature promoting a critical view toward the system development process (Lyytinen, 1992). These works, which investigate alternatives to traditional, technical approaches to development (Hirschheim and Klein, 1989), generally provide only a philosophical (versus methodological) direction for research.

Critique: In developing an epistemology for research using CST, it is no doubt important to build theoretical arguments as a beginning. However, we make two points in this regard. (1) The motivations in research must remain faithful to the tenets of CST. That is, there must be a focus on relations of power and knowledge, and the research must hold an interest (emancipatory) in suppressed individuals and groups (Alvesson and Deetz, 1996). As researchers, we must be especially careful about carrying extraneous theoretic baggage into our work – i.e., prior management and organizational theory. (2) Of equivalent importance, there must be a mutually informative, dynamic interaction between theory and practice. This is important both in developing a research perspective and in the ongoing conduct of research. In other words, the phenomenon, as much or more than theory, must direct our attention to topic. We provide a brief example from our own work below to help illustrate these points.

As previously stated, our research interests (cited herein) have focused on the implementation of ERP systems in organizations. Our observations have led us increasingly to ask: What is meant by *implementation*? In IS research, implementation has been generally portrayed as a stage or phase in the system development process. Implicit in this view is a perspective based on the activities of the developer (in our case, developers external to the organization). Increasingly, we have found this view inadequate in addressing the concerns of managers in functional units of the client organizations. Specifically, the long and generally linear perspectives of development fail to model the hyperturbulent, discontinuous, and highly uncertain environment in which these managers must function in the course of implementing an ERP application. They face: shortened software lifecycles with upgrades often taking place monthly or weekly rather than yearly, and development methods in real time with beta versions indefinitely extended. As a consequence, we see in practice a need for an understanding of implementation which accounts for the subjective, interpretive mental processes of the managers (and users) in client organizations – processes apparently constrained by diverse interests. Our feeling is that CST may provide a useful theoretic base for investigation.

Conclusion

In making concluding remarks, the authors first emphasize a strong belief in the appropriateness of applying a "critical" approach to IS research. Changes in authority relative to IT "expertise", unclear rationale in IT decision-making, prolific use of technical jargon and other evidence lead us to believe that IT design and use provides an appropriate context for CST. In this paper we have tried to briefly elaborate on some important issues.

Several of the major points include: re-evaluating perspectives on organization and management influence in the IT environment; broadening perspectives on IT within existing critical theoretic frameworks; and finding needful and appropriate areas to apply a critical approach. The common theme emerging from these and other issues is the importance of developing a strong link between theory and practice. Management and organizational theory must be able to integrate theory derived from the design and use of technology. In this way we will avoid the pitfalls of imposing these theories on IT practices and, thereby, remain true to the fundamental principles of CST.

"References available upon request from R. Southwick"