12 THE CRITICAL THEORY OF JURGEN HABERMAS AS A BASIS FOR A THEORY OF INFORMATION SYSTEMS

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Abstract

This paper proposes that research into how information systems are used and developed requires a new theory. This theory must account for all the different types of human behavior in information systems. The theory put forward here is derived from the Habermas "critical theory." It suggests that information systems which are designed to increase organizational effectiveness must also increase human understanding and emancipate people from undesirable social and physical constraints, distorted communication and misapplied power.

The human interest in autonomy and responsibility is not mere fancy, for it can be apprehended a priori. What raises us out of nature is...language. Through its structure, autonomy and responsibility are posited for us. Our first sentence expresses unequivically the intention of universal and unconstrained consensus. J. Habermas, *Knowledge and Human Interest*, 1972)

Introduction

Developing information systems (IS) is not easy. There may be user hostility or alienation, uncontrolled development and maintenance costs, technical problems, lack of use or misuse, and incorrect or misleading data. (Alter 1980;Markus 1983). This makes scientific research a challenge.

The classical approach to research into information systems has been based on an engineering model (Senko 1975). This paper will argue that this approach is very limiting. It has led to a concentration on the technical aspects of design at the expense of the human and to a narrow definition of cost effectiveness as a system goal. Human problems such as failures to implement systems have not been understood or even examined. However the attention of the research community has been slowly moving away from this narrow perspective towards a greater concern for the social context in which information systems are used. New approaches and new measures are being adopted. These include socio-technical design (Mumford and Weir 1979), implementation research (Alter 1980; Alter and Ginzberg 1978; Keen 1981a; Markus 1983), participative systems design (Hirschheim 1983) and new development strategies (Lucas 1978; Kerola 1979; Keen 1981b). These approaches, although steps in the right direction, have only been partially successful and may even have caused new problems.

The authors believe that there are two reasons why the design of information systems has not become a scientific and professional discipline. First, most design methods do not recognize that the design process is a social act. It is seen merely as the delivery of a technical system and its adaptation to the social situation which surrounds it. We argue that design must be viewed as a social process that interacts with both a physical and a social world. Second, most research in information systems is dominated by scientism and adherence to scientific method (Klein and Lyytinen 1985). This means that important issues are neglected. Information systems are narrowly viewed as a means for making management more efficient and organizations more effective (Bariff and Ginzberg, 1982). Thus information systems become a part of the rational-technical approach to our society which derives from classical scientific method (McCarthy 1978; Habermas 1973). Bleicher (1982) suggests that "the quest for a more rational organization of society has turned from liberation to the preservation of the status quo."

This paper discusses theoretical concepts which go outside the boundaries of conventional information systems research. Habermas' Critical Social Theory (C.S.T.)[1]

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[1]Critical Social Theory is the name given to a school of thought which originated in the 1930s with a group of scholars associated with the Institute of Social Research at the University of Frankfurt. The original group consisted of Max Horkheimer, Adorno, Fromm and Marcuse. The School attacked scientism for its inability to handle social theory and for its narrow appeal to "Instrumental reason'. Critical Social Theory has as its fundamental concept the belief that any dynamic social theory must view society and its parts as highly dynamic. It can be changed by its members. Habermas moved away from some of the ideas of the founders of the school and has become one of the most controversial modern social scientists, whose works cover many important issues of social theory.

An excellent summary of Habermas' thoughts is McCarthy (1978). Habermas' principal works in English can be found in the references to Habermas (1971,1972,1973, 1979) in this paper.

is put forward in the next sections as an alternative theory from which new concepts and values can be drawn.

Information Systems Research and Habermas' Theory of Social Action

Research into information systems has primarily concerned itself with individual decision making processes (Ciborra 1984). Also, information systems development has been viewed as an individual inquiry, communication and decision making process in which systems analysts, end-users and other stakeholders participate. In this paper we shall put forward another viewpoint. We suggest that information associated with the use and development of information systems can be regarded as knowledge for social action.

A Typology of Action

Habermas derives his action theory from man's striving for success and understanding in his ordinary life (Habermas 1979, 1982). The activities that accompany these strivings he calls work and social interaction.

Actions which are directed towards achieving success are called by Habermas "purposive-rational" action. When man strives for success, he is attempting to realize an objective, and he measures the success of his actions by how nearly he achieves this objective. If purposive-rational action is an intervention in the physical world and is achieved through following technical rules, we refer to it as instrumental action. The success of instrumental action is derived from empirical technical knowledge. Purposive-rational action is strategic if it orients towards rational opponents and follows decision rules to maximize individual interests. It can be evaluated in terms of its efficiency in achieving the desired objective. Strategic action is associated with a knowledge of social situations and social values. It can be sub-divided into open strategic action like social behavior in market situations (Ouchi 1979) and covert strategic action such as deception.

Another form of social action is communicative action. This takes place through language and it aims to achieve mutual understanding. It focuses on agreement, a common understanding of norms, meaning and values and on maintaining social relationships (Habermas 1979). In communicative action, people reach understanding through having a common background of assumptions about the world. Communicative action is based on a knowledge of norms, conventions, habits and accepted world views, all of which can be expressed in ordinary language. Our discussion is summarized in Figure 1.

More or less critical summaries and evaluations of Habermas' critical theory can be found in Thompson and Held (1982), Overend (1978), Dallmayr (1972), Lobkowitz (1972) and Bernstein (1976). In organizational and IS research, only some works founded on CST are known (Puxty et al. 1980; Klein 1981; Lyytinen 1982). Minger (1980) discusses the relationship between CST and Checkland's "soft methodology" (1981).

Agreement which is achieved through communicative action is based on underlying assumptions. These include the truth of statements, sincerity of speech and so forth (Habermas 1979). When people "bracket" (Boland 1985) ongoing speech to inspect its background and assumptions, we can speak of a discourse and a discursive communication. In a discourse, these assumptions are carefully examined to test their validity. This is "related to identifying and reconstructing universal conditions of possible understanding" (Habermas 1979).

TYPE OF ACTION

domain of action	oriented to success	oriented to agreement	type of interactions
non-social	instrumental action	---	instrumental action
social	strategic action	communicative action	social interaction
	purposive-rational action	communicative	

Figure 1. Habermas Typology of Action

Thus we can distinguish the four types of social interactions exhibited in Figure 2.
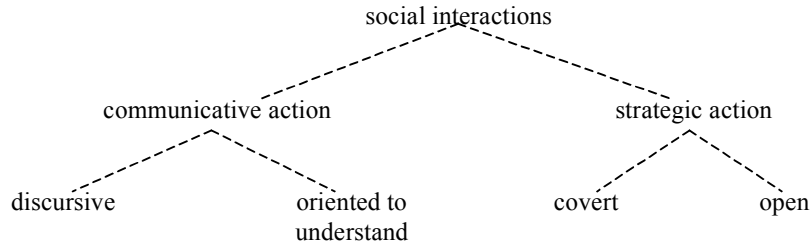

Figure 2. Social Interactions in Habermas Typology

Two clarifying points need to be made. First, Habermas' typology of action represents ideal types (McCarthy 1978). It is an attempt to simplify complex social behaviors and to highlight their principal differences. Purposive-rational action has a powerful means-ends orientation and is based on technical knowledge (McCarthy 1978). Communicative action, in contrast, is concerned with agreed norms of behavior, reciprocal expectations and mutual understanding and values.

More recent theories of organization show this typology in an interesting light. Ouchi's (1979) classification of organizational forms into markets, bureaucracies and

clans seems to produce a continuum in which we move from strategic action to communicative action.

Second, the use of language is not necessarily restricted to communicative action. Language can also be used in strategic action. However, the way in which language is used will differ. In strategic action, truthfulness is not necessarily taken for granted (Ciborra 1984) and there is a strong tendency to try and influence the behaviour of an opponent (Habermas 1982). Habermas would claim that communicative action is a fundamental part of social existence and that other forms of social action are derived from it.

The Relationship of Social Action Typology to Information Systems Research

What are the contributions of Habermas' action theory to information systems research? There are at least two. First, it can be used as a means for classifying existing research. Second, it can be used to support the need for a broader approach to information systems research.

In the next diagram we show how some existing research into information systems use and development can be fitted into the Habermas' action framework.

Social Action and IS Research

	Information Systems Use	Information Systems Development
Instrumental Action	Mason and Mitroff 1973 Senko 1975 Bariff and Ginzberg 1982	Senko 1975 Olle et al. 1982 van Griethuysen 1982
Strategic Action open	Ciborra 1981, 1984	Keen 1981a Robey and Markus 1984 Kling 1980 Pettigrew 1980
covert	Ciborra 1981, 1984	Keen 1981a
Communicative Action	Flores and Ludlow 1981 Boland 1979 Lyytinen 1983b Boland and Pondy 1981 Goldkuhl and Lyytinen 1982a	Boland and Jay 1982 Goldkuhl and Lyytinen 1982a, 1982b, 1984 Klein and Hirschheim 1983 Lyytinen 1983b
Discursive Action	- - -	Lyytinen 1982, 1984 Klein 1981

In most information systems research, information systems development is regarded as a means for making the data processing tasks of an organization more efficient (Senko 1975). It is seen as instrumental action to engineer the socio-technical system. It is a way of helping the organization to achieve its goals by "influencing the organization members' responses" (Kendall and Kriebel 1982; Bariff and Ginzberg 1982). Most intellectual models that are used are mechanistic and technically oriented (Burrell and Morgan 1979). They are based on a functional organization model which does not take account of any conflicts of interest between the stakeholders. Any organizational action is based on a strictly instrumental interpretation of events.

Habermas' framework suggests that the instrumental action model is too narrow. Information systems research has to be liberated from identifying solely with this approach, if we want to overcome the problems it is facing.

The existence of what we have called "open strategic action" has been acknowledged by many scholars (Keen 1981b; Kling 1980; Robey and Markus 1984; Pettigrew 1980). Usually this is assumed to take place only during information systems development (Ciborra 1984). This is then regarded as a political process in which various stakeholders stand to lose or gain power as a result of development strategies. Participant groups make different "strategic" moves during the development process to secure gains or avoid losses. Only Ciborra's (1981, 1984) theory of information systems accepts the role of an information system as a means for strategic action. This theory views an information system as an instrument for supporting the exchange processes of control and coordination within an organization. These processes are seen as essentially contractual in nature. This "exchange" can also take place opportunistically for covert purposes.

The covert information system development has hardly been discussed in the literature, although its possibility has been recognized (see Keen 1981a).

When information systems are being used and developed, communicative processes take place constantly. This has been reported by many researchers (Boland 1979; Boland and Jay 1982; Goldkuhl and Lyytinen 1982a, 1982b; Lyytinen 1983a; Klein and Hirschheim 1983). These are usually related to reaching an understanding and/or agreement on such issues as "what is the problem to be solved?" Discursive communicative action is encountered in situations where attempts are made to rationally legitimate the change action (Klein 1981; Lyytinen 1982, 1984).

The power of Habermas' social action model leads us to abandon the purely scientistic engineering approach and develop a new approach to information systems research. This new theory can be based on a theory of knowledge interests. This is our topic in the next section.

Theory of Knowledge Interests

Habermas believes that the study of scientific knowledge must be based on social theory. Therefore, it requires a theory of social action. At the same time, any theory of social action presupposes that there is already a theory of knowledge. As Hill (1972) puts it, Habermas "believes that knowledge is...a social question: science is a social phenomenon, and the way human beings live is grounded on the way they know."

Knowledge is always related to human action, however this relationship is not necessarily a direct one (Bernstein 1976). This leads us into a study of knowledge interests that reflect fundamental characteristics of human life. Habermas insists that these "are imperatives of socio-cultural forms of life" and thus of social action in general. They are "specific viewpoints from which we apprehend reality" and make it "objective." Habermas therefore rejects scientist attempts to define the universe as a set of facts, which are independent of the observer and his or her action.

Knowledge interests determine "the cognitive strategies that guide systematic inquiry." They therefore provide a means by which we can classify the processes of systematic inquiry. Habermas classifies modes of inquiry into three kinds of knowledge interests—technical interest, practical interest and emancipatory interest. In the diagram below, these are characterized in the following way:

(1) The SOCIAL ACTION ASPECT reveals the connection between a type of social action and the knowledge interest with which it is associated (McCarthy 1978; Bernstein 1976).

(2) The MEDIATING ELEMENTS ASPECT suggests three "real" world elements that underly a specific knowledge interest (Habermas 1972).

(3) The SCIENCE ASPECT suggests how disciplines can be classified according to their underlying knowledge interest (Habermas 1972).

(4) The PURPOSE OF INQUIRY ASPECT provides the reasons behind a knowledge interest inquiry.

(5) The PROCESS OF INQUIRY ASPECT gives the methodological framework of the inquiry.

ASPECTS OF KNOWLEDGE INTERESTS

Knowledge Interest	Social Action	Mediating Elements	Sciences	Purpose	Process
technical	purposive-rational	work systems	empirical-analytic	explanation, prediction, control	scientific method, verification
practical	commun-icative action	cultural institutions, natural language	historical-hermeneutic Geisten-wissen-schaften	understanding of meaning, expansion of inter-subjectivity	ideographic method, dialogue rules of hermeneutics
emancipatory	discursive action	power unwarranted constraints	critical sciences, psycho-analysis, philosophy	emancipation, rational consensus, Mundgkeit	reflective method criticism of assumptions

Technical knowledge interest is concerned with the efficient control of the "physical" world. It is linked to the knowledge needs of purposive-rational action. This capability to control is acquired through learning, by observing the success or failure of deliberate interventions.

Disciplines that follow this knowledge pattern are natural sciences, such as physics and engineering, and systematic social science, such as economics or operational research. All of these are interested in prediction and causal explanation. These sciences, then, "disclose reality subject to the constitutive interest in the possible securing and expansion, through information, of feedback monitored action" (Habermas 1972).

Inquiry in the technical knowledge interest mode takes place through controlled experimentation in which hypotheses are verified or falsified. Methodological rules of inquiry are called "scientific method."

The **practical**[2] knowledge interest is concerned with assisting historic understanding, both self understanding and understanding of others. This manifests itself through the communicative action of ordinary language (Berger and Luckman 1967). The ability to understand comes from the cultural socialization that produces accepted social norm and role expectations. The disciplines which are concerned with this kind of knowledge are the historical-hermeneutic sciences. They include history, anthropology, hermeneutic sociology (Winch 1958), and Wittgensteinian linguistics (Wittgenstein 1953; Austin 1962; Searle 1969). These sciences are interested in clarifying meaning. They direct their attention at interpreting the meaning of texts and actions. Methodological rules of inquiry are called "rules of hermeneutics" and they attempt to create a dialogue between people trying to understand each other.

Emancipatory knowledge interest is related to our concern to have free, open communications and the conditions that enable these to take place (Bernstein 1976). This is the most fundamental knowledge interest because it deals with the substantive and normative aspects of human life, our destiny as a human species. It describes what ought to be the aim of our study of social systems and of social action. It unites the two other knowledge interests and provides a means for investigating how they relate to each other and their dynamics. Examples of sciences dealing with this kind of knowledge need are social science when it takes a critical view of social institutions, psycho-analysis when it is dealing with our inner compulsions and distortions, philosophy when it deals with the validity of our knowledge, etc. The purpose of such inquiries is our emancipation. People are released from intellectual and social domination and grow to intellectual maturity, which is characterized by autonomy and responsibility, called Mundigkeit. The process of inquiry is primarily reflection, with an uncovering of false beliefs and distortions and a careful criticism of these. Emancipatory knowledge interest is related to discursive communicative action. Participants look for the justifications of arguments and test their validity.

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[2]Habermas uses the term "practical" in a way that preserves its original meaning as a "doctrine of politics." It does not mean "technical," which originally meant "skillful production of artifacts and expert mastery of objectified tasks."

Information Systems Development and Knowledge Interests

The Implications of Three Knowledge Interests for Information Systems Development

Because information systems development is currently dominated by approaches based on the idea of purposive-rational action, the underlying knowledge basis of many of its methodologies is technical knowledge interest (Goldkuhl and Lyytinen 1984; Lyytinen 1983a, 1983b). This appears to be true even of those methodologies which take a broader social perspective such as socio-technical system approaches and implementation research. Variations can only be found in the scope of inquiry, its conceptual basis and applied inquiring methods.

Our understanding of the process and content of information systems development and its supporting methodologies can be improved considerably if it is recognized that it includes not only technical knowledge interest, but also practical and emancipatory knowledge interests.

First, restricting attention to technical knowledge interest influences how problems are defined and understood. They are perceived as given and as totally independent of the investigator. Because of this narrow focus, methodologies are unable to explain how people, through social learning, create new meanings and concepts to cope with new situations.

Second, a concentration on technical knowledge interests conceals the real processes of information systems development and their dependency on communicative action. In the majority of information systems design methodologies, design groups see users as "producers of information," as "primary problem solvers," and as "opponents in an implementation game." Information systems development as a process of communicative action through ordinary language is hardly known and rarely studied (Boland and Jay 1982; Goldkuhl et al. 1983). In consequence, methods to assist the sharing of different opinions and problems, and the role of ordinary language in this process, have not been developed and studied. Because of this, most methodologies cannot handle the participation issue or examine it theoretically.

Third, existing methodologies appeal to value-neutrality and instrumental reason. They define all information systems problems in terms of means and ends, and the most efficient way of pursuing these. This selecting implies a tyranny of means over ends. There is little consideration of values and goals, and the design process is seen as "an act of faith" (Ray 1979). There is no attempt to legitimate goals through developing a rationally grounded consensus amongst the stakeholders.

The Issue of Meaning

Information systems would be useless if they could not assist the sharing of meaning and knowledge, and users of information systems do, at least partially, understand the meaning of the messages which they put into, and receive from, the system. The problem is "how can those holding a scientific position, and applying the framework of technical

knowledge interest to reality, take account of meaning without violating its own frame of reference?"

Technical knowledge interest offers two options for a theory of meaning: denotational correspondence theory and behavioristic stimulus theory. Both of these are inadequate (see Klein and Lyytinen 1985).

In critical social theory, the meaning of language derives from linguistic norms, practices and conventions. The understanding of, and use of, language depends on a set of rules. Therefore, understanding messages put into an information system requires a knowledge of the rules that govern their use. This enables users to correctly interpret a message. The meaning of a message can be revealed by reconstructing the rules that have been used in its formulation (Habermas 1979; Goldkuhl and Lyytinen 1983). Communication in IT is a rule-based language game. Information systems are formalized systems of communication built as a language game (Goldkuhl and Lyytinen 1983; Lyytinen 1983a, 1983b). Language games are determined by their grammars, i.e., sets of rules (Wittgenstein 1953; Habermas 1972). Habermas illustrates the nature of grammars in the following way.

> The grammar of language games links symbols, actions and expressions. It provides schemata of world interpretation and interactions. Grammatical rules establish the grounds of an open intersubjectivity among socialized individuals and we can only tread this ground to the extent that we internalize these rules—as social participants—not as impartial observers. Reality is constituted in a framework that is the form of life of communicating groups and is organized through ordinary language. (Habermas 1972)

The meaning of information communicated in language games can be studied in terms of what Habermas (1979) calls the "double structure of speech." By this he means that understanding a message always has two features. First, it requires a general recognition of what the message is about, i.e., what objects the message informs about. Second, it involves an understanding of the way in which the language is used, i.e., is it used as a statement, a prediction, a promise, etc.? The second aspect reveals what purpose language serves in social interaction.

Critical social theory suggests to us that information systems methodologies should not treat "meaning" as something that is objectively given. Instead, they should study and criticize the rules that govern the ways in which messages are used in information systems, and evaluate their appropriateness. The study of meaning should not represent "facts," but reveal inconsistencies and develop the rule-competence of users. This approach will identify how competent users are to communicate clearly and effectively.

Critical social theory enables us to go even further in our analysis of meaning. The discursive communication model provides us with criteria which can act as a "validity base" for communication and meaning. Communication and meaning in an information system should be based on rationality principles that produce effective, undistorted communication. This kind of communication is comprehensible, true, truthful, appropriate and legitimate. Further it adheres to the maxims of communication proposed by Grice (1974). These are a maxim of quantity, a maxim of relation, and a maxim of manner.

Very little research has yet been carried out into these theories of communication. However, they appear to offer possibilities for a broader and more fruitful approach to problems of communication and meaning in information systems than the present ones. (Goldkuhl and Lyytinen 1982b, 1984; Lyytinen and Lehtinen 1983, 1984; Flores and Ludlow 1981).

The Participation Issue

Another issue which comes into conflict with scientism is participation. Participation influences the way in which groups behave. It affects their purpose, proceedings and discussion content. There are many and varied opinions concerning what participation is and what its benefits are in information systems development (Hirschheim 1983; Mumford 1984). But all of these appear to assume that participation assists the achievement of some of the goals of management, systems analysts or users when a new technical system is being introduced and adopted. Information systems development affects users by changing their jobs and introducing new patterns of work. Participation is required to balance the two elements in the new socio-technical system: people and technology.

Participation can increase job satisfaction, decrease alienation in work, increase the use of information systems, etc. (Hirschheim 1983). Participation also helps management and systems analysts to "sell" information systems to users and gain their acceptance. These are legitimate grounds for supporting participation. They justify participation when information systems development is conceived in terms of technical knowledge interest.

However, these arguments omit two important reasons for participation which only becomes apparent if information systems development is viewed in terms of other knowledge interests. Other knowledge interests also require an enlarged type and content of participation which influences the way people interact with each other (Lyytinen 1983b).

The practical knowledge interest requires participation because, without a great deal of open discussion, an information systems development group cannot understand the norms, values and actions of its members. In a dialogue, the rules of the different language games become apparent (Goldkuhl and Lyytinen 1984). Also, a dialogue assists the definition of problems and the identification of solutions (Boland 1978; Goldkuhl et al. 1983). Participation enables the users of an information system to take responsibility for their own language and action, and their own definition of organizational reality. Only they can really understand their own work situation. Systems analysts can act as catalysts. They can help discussion and interpretation by providing methods and new "experience-distant" concepts.

The emancipatory knowledge interest requires participation, because the rationality of the goals and values of information systems development requires an open and informed debate (a discourse) between equals. In a discourse, all the participants have an equal opportunity to put forward arguments for and against different change options. A rational, accepted, form of information systems development can only be secured through

participation. If informal people can make rational choices, then they will end up with a rational information system.

According to critical social theory, a discourse is an "ideal speech situation" (McCarthy 1978). It can only be approximated in real life. Real life introduces time and space distortions and vested interests. A theory of discourses is therefore normative and a kind of maximum participation that can be aimed at but not attained.

The Issues of Rationality

In the scientistic tradition, the values of information systems development are accepted as given and their choice is irrational (Ray 1979). Usually they are based on technical-economic goals which are unambiguous, clear and conflictual. The problem is seen as one of choice—the best way to arrive at a particular goal. The setting of goals is seen as a political process removed from the public sphere of information systems development.

But information systems development methodologies have great difficulty in justifying this position. Why is it rational to choose means but ignore the nature of goals? Why is it objective and rational to focus on means but subjective and irrational to question the nature of goals (McCarthy 1978; Klein and Lyytinen 1985)?

Further, the rational-economic viewpoint does not fit with existing evidence. People do not behave in accordance with rational-economic predictions (Kling 1980; Blair 1982). In real life, values and goals are often contradictory, This difficulty might be overcome by developing game-theoretic models which calculate the best strategy for each party, but these models ignore the influence of politics and power relations on choice. In some situations, conflicts of values and of interests cannot be resolved; in others, goals and values may be ambiguous (March and Olsen 1976). It therefore appears that the instrumental rationality of the information systems development methodologies is not supported by experience. The methodologies cannot deal with conflict situations and social debate on ambiguous goals. Conflicts can be simply solved through the use of managerial power.

An alternative approach is to relate information systems development to the concern of people for emancipation. The aim then becomes to achieve open, democratic communication and the kind of environment that permits this. Values and goals can be clarified and agreed through discursive communication. This requires the removal of organizational barriers that prevent a discussion by all participants of values and norms. The driving force behind participation is a striving for agreement on what is right or wrong, true or false, achieved through the "force of a better argument."

This idea of an "ethics" of social interaction implies that the rationality of information systems development can be derived from a broader base than at present. This requires information systems development methodologies to be socially more "open." They should permit a free, informed debate on the goals of information systems development. They should enforce authentic communication, minimize domination, and support open criticism. Klein (1981) discusses how rational discourse can be implemented as part of information system development methodology.

Critical Social Theory and Information Systems Research

What are the implications of critical social theory for information systems research? If we regard scientism as dysfunctional, we must examine critical social theory to see what it has to offer. Our arguments are set out below.

The Ontology of Information Systems Research

Critical social theory does not conceive information systems as technostructures that store hard facts about an objective reality. Instead, it sees them as influenced by knowledge-based rules which are always socially and historically conditioned (Goldkuhl and Lyytinen 1983). If this definition is accepted, then the scholar cannot remove himself from the situation in which information systems development takes place. He has to take part in the social debate (Checkland 1981). This has also been recognized as a requirement of action research (Reason and Rowan 1979).

The Epistemology of Information Systems Research

Critical social theory is itself an epistemological theory. It does not assume that the truth of a scientific theory is its correspondence with some objective reality. Instead, it recognizes that truth has to be defined through a discourse. Truth is an ability to support one's arguments with sound reasons when challenged. Critical social theory emphasizes "the logic of justification" whereas the modern scientistic position emphasizes "the logic of falsification" (Popper 1972). Both theories recognize the uncertainty and fallibility of human knowledge. Therefore, different research theories and methods need to be constantly debated. Researchers need to be more aware of the limitations and appropriateness of the methods they use.

Critical social theory does not regard empirical analytical methods as illegitimate. On the contrary, they are completely legitimate when used in the natural and mathematical sciences where the goal is to predict new states and to control external events. Nor does the critical theory deny the applicability of these methods in the social sciences (Habermas 1972; McCarthy 1978). Instead, it tries to bring the hermeneutic and the traditional methods together.

This means that we should not abandon the use of empirical-analytic methods in information systems research. These are legitimate and appropriate providing that no claims are made for their exclusive validity. Also, researchers should be more aware of their limitations (Apel 1980). This means that the researcher should know more about the methodological choices that are available when selecting a research strategy (Klein and Lyytinen 1984).

Critical social theory maintains that it is impossible to understand how knowledge is arrived at through a scientistic approach, and this is true in both the natural and the social sciences. The aim of the Habermas book (1972) was to demonstrate this point. Critical social theory also challenges the scientistic claim that empirical-analytic methods are the only legitimate means for acquiring knowledge.

Research Methods in Information Systems Research

Critical social theory is not a research methodology in the sense that it tells us how to do research. It emphasizes the role of interpretive and hermeneutic methods in research which has a social content. Therefore more emphasis should be placed on these approaches in information systems research (Sanders 1982; Reason and Rowan 1979; Nissen and Holmberg 1982; Goldkuhl 1982) in association with more traditional methods.

In emancipatory knowledge interest, the role of research methods is less clear cut. It helps us to identify the most appropriate research methods for particular social situations. This raises the question, "Can we develop a research method to choose a research method?" Habermas solves this problem with his notion of the "counter-factuality" of discursive communication. He argues that research methods can only be as good as the level of discursive communication permits. In discursive communication, the criterion of truth is not that a consensus has been reached, but that a discourse can create a situation in which it may be possible to arrive at a consensus (Habermas 1973).

Habermas equates the purpose of emancipatory knowledge interest with emancipation through reflection. But he provides no systematic procedure to assist this reflection. In terms of Hegelian dialectic, it negates, preserves and overcomes scientism. First, it negates it by showing that the tenets of scientism are false and dysfunctional for science and society. Second, it preserves scientism by showing the positive role of empirical-analytic methods in the progress of science. Third, it overcomes, i.e., negates and preserves, scientism by offering a new rival epistemology that goes beyond what scientism has achieved. The origins of reflective inquiry are in the Socratic model of dialogue. In this, participants achieve self knowledge which is therapeutic and also contributes to knowledge, feeling and practice. Habermas states two additional conditions for this reflection model:

(1) A reflective mode requires an institutional setting that fosters a dialogue (of psycho-analysis) and frees participants from possible distortions.
(2) This dialogue can only proceed in mutual understanding and in increasing the intersubjectivity by gradually improving meanings through interaction.

The success of reflection is dependent on the ability of participants to liberate themselves from barriers to knowledge, renounce false beliefs and assumptions and remove their own intellectual and emotional resistance. Therefore information systems research methods that contribute to emancipatory knowledge interests have to be "processes" in which new knowledge is created and introduced into a social dialogue, in which researchers and users of research are participants (Reason and Rowan 1979).

The Ethics of Information Systems Research

According to critical social theory, the objective of knowledge is emancipation: knowledge and interest are the same (Habermas 1972). The purpose of information systems research is not to inform fellow researchers of "universal" laws. But it can help systems analysts and users to inform and help themselves. This means that the ethics of information systems research should be able to deal with such issues and avoid the conservatism which is implicit in current research methods. For example, the use of a

language that hides real issues, a detachment from the change situation, a lack of self criticism (Reason and Rowan 1979).

Concluding Remarks

Critical social theory is a dialectical opposite to the dominating scientistic research paradigm. Therefore, its strengths are the weaknesses of the scientistic paradigm and vice versa.

Critical social theory, as outlined by Habermas, has many application problems. Its claim for the validity of three types of knowledge and sciences is not free from problems (Thompson and Held 1982; Berg 1980). There is the problem of whether everyone wants to emancipate themselves, given that there may be psychological as well as social costs. There is also the problem of how to distinguish a false consensus from a rational consensus. We believe that all of these philosophical problems need to be addressed by philosophers. At the moment, critical social theory provides a means for achieving a more rational approach and its ideas can be used in information systems research.

Like all good theories, Habermas' critical social theory is in a state of change and development. Therefore its use for information systems research is not straightforward. However, this does not affect the usefulness of critical social theory in shedding light on unresolved issues in information systems. A critical social theory view of information systems should be developed fully. This is also consistent with our proposal for a multi-paradigm research community in information systems (Klein and Lyytinen 1985). We have only achieved a modest understanding of the theory's central tenets and are curious to find out, through further work, where it may lead us.

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