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Beyond the Technology Revolution: Putting Practice into Context

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BEYOND THE TECHNOLOGY REVOLUTION: PUTTING PRACTICE INTO CONTEXT

As accounting information systems become more and more central to the technique and practice of accounting, it becomes crucial that our understanding expand beyond the technical aspects of development and application. Drawing on Habermas' social theory, arguments are presented that facilitate a significant expansion in the issues considered and participants involved. We illustrate how the theory can be used to formulate alternative views and to provide a basis for explicit recognition of the assumptions and ideologies that underlie systems applications.

Introduction

Accounting information systems represent the merger of technique and technology. The technique is that of accounting and auditing and refers to the methods and procedures by which transactions/events are recognized, recorded, aggregated, and reported. The technology is that of computer based information systems and refers to the medium through which techniques are implemented. The sociology based accounting literature (Burchell, et al., 1980; Covaleski, et al., 1996) draws an important distinction between technique and practice. Practice connotes the application and use of technique by human beings within some socio political context. Drawing on these distinctions, we propose that the domain generally referred to as accounting information systems can be viewed from three different levels. The first level concerns the "physical" manifestations of technique and technology[8] and connotes the actual *accounting information system*. The second level concerns the behavioral manifestations associated with, and following from, the instantiation of accounting information systems within a socio political framework (i.e., within organizations). We refer to these instantiations as the *practices* associated with the application[9] of accounting information systems (AIS). The third level refers to the framework that extends across time and space constituted by, and in turn constitutive of, practices associated with the design, application, and use of accounting information systems,[10] and we refer to this as the *context* of accounting information systems.

Typically, the extant literature focuses at the technical systems level concentrating on the methods and procedures employed, the medium of implementation, and/or the application and use of the resulting information system. Little attention is given to the genesis or ideological proclivities of the methods, medium, or the socio political context of the system application (Dillard, 1996; Tinker and Yuthas, 1995). As a result, the capabilities for typical research

[8] We are not implying a directional relationship between accounting and auditing and computer based technology. We recognize that accounting and auditing technology is continually evolving and changing. The ongoing and significant interface and interaction between the technique and the technology may influence the development and articulation of accounting and auditing techniques and vice versa.

[9] In the following discussion, the term application will be used to refer to the design, development, application, and use of accounting information systems.

[10] These levels are analogous to what takes place in accounting/auditing. Accounting methods and procedures by which transactions/events are recognized, recorded, aggregated, and reported are referred to as *accounting*. *Accounting practices* connote the application and use of the techniques by human beings within some socio political context. The *practice of accounting* is the ongoing context across time and space made up by, and constitutive of, accounting practice.

undertakings in providing meaningful insights are inherently limited and in many cases unsatisfactory. As the contextual complexity and applications of accounting information systems increase following at least partially the revolution in information systems technology, the need for cogent and theory grounded research incorporating neo-technical perspectives increases. For one to review the literature pointing out that certain variables have appeared in previous studies no longer constitutes an adequate theoretical basis for undertaking a particular research study, for understanding observed behavior, or for providing guidance in designing, developing, applying, and using accounting information systems. Some organizing theoretical framework is needed upon which to ground investigation, to provide the context whereby results can be evaluated and integrated into the larger body of domain knowledge, and ultimately to culminate in providing guidance for systems applications.

The subsequent discussion follows from the recommendations articulated in Dillard (1996) indicating the benefit of expanding the current research and applications perspectives by employing the theoretical and evaluative lens of other disciplinary theories and approaches in considering the effects of accounting information systems on the organizations within which these systems are applied and on the individuals who implement and use them. In other words, in order to understand the practices of the field typically referred to as accounting information systems, alternative perspectives are needed. The particular lens proposed here is the *anit* perspective, specifically that of radical humanism.[11]

The social theory of Jurgen Habermas (1975, 1979, 1984, 1987) is presented as a useful, action-based, framework for studying and understanding the applications, practices, and context of accounting information systems. The dynamic complexity of the domain precludes an expectation of providing a definitive answer or single satisfactory framework for investigating, designing, and implementing accounting information systems. Our purpose in undertaking the following discussion focuses on initiating a dialogue grounded in a critical social theory that expands the degree of inclusivity, enhances the understanding of possibilities surrounding accounting information systems, and ultimately leads to more successful, in its broadest sense, systems applications. The central argument states that accounting information system applications fail[12] because we do not generally recognize the inherent contradictions within the underlying organization structures and the resulting institutional and personal implications that emanate from these contradictions. The proposed framework assists in recognizing the circumstances that contribute to system failure and provides a general methodology for addressing them. The euphemistically employed term, “system failure”, epitomizes the ultimate focal point where the lack of consideration for the social and political context becomes manifested in the inability of technique and technology to solve the intended, generally technically defined, problem.

In the following section, we discuss the constructs of business organizations and how the internal and external forces ultimately leads to systems failures. The next section proposes that system design, development, and implementation must become a more inclusive and socially oriented process. An expanded methodology is discussed and general parameters specified. The closing section summarizes the arguments presented, discusses limitations, and suggests areas for expanding the proposals.

Organizations, Structures, and Context of Accounting Information Systems

[11] Also see Burrell and Morgan (1979) for a complete discussion of radical humanism.

[12] Failure is defined in a broad sense to include technical, functional, and social dimensions. The technical dimensions include design specifications, software and hardware capabilities. The functional dimensions refer to meeting users needs and attaining economic results. The social dimension relates to the impact on the quality of life for affected parties.

Companies are goal-directed social organizations. Within the current economic environment, the social production of goods and services is the primary material manifestation of a business organization. Organizations come into being for the purpose of facilitating economic production – the application of technology and labor to raw materials by groups of human beings. The function of an organization is to integrate the individuals and groups of individuals engaged in the production of the chosen goods and services, ostensibly for the benefit of the society's citizens. Social integration refers to the means by which interactions among individuals or groups of individuals are coordinated and controlled and is accomplished through management and control systems. The formal management and control systems represent the initiating structures of social integration within an economic organization.[13] As a result of formal structures, informal coordination and control structures arise.[14]

To be effective, social integration must overcome inherently conflicting interests of the participants. As has been pointed out by Marx and others, one of the fundamental contradictions[15] of the capitalist mode of production is between socialized production and privatized product. Given the current legal and political environment, the organization also represents the conduit through which profits are appropriated.[16] In order to accomplish the necessary level of wealth accumulation, the organization must attempt to ameliorate the inherent contradiction.[17] Organization structures and the management and control systems designed to support economic efficiency, in many respects, are a response to, and a reflection of, the stresses arising from contradictions although the relationship is not usually recognized. The accompanying accounting information systems while directed toward economic efficiency and profit maximization, also reflect the latent stresses, incongruities, and incompatibilities, which must also be considered if social integration is to be facilitated.

Current perceptions of accounting information systems, as evidenced in trade publications and the academic literature, emphasize their technical role in enhancing economic efficiency and improving financial performance. Within such a technically dominated context, social considerations receive little attention. As a result, implementation and integration problems are likely to be overlooked or simplified, important alternatives not recognized, and instrumental solutions viewed as superior. Such a perspective also obscures the organization structures that embody the values, history, and background within which the systems are implemented and used. Next, we propose a social theory capable of incorporating the organizational dynamics within which accounting information systems are applied.

Accounting Information Systems Understood Within a Habermasian Context

[13] The integration of social systems holds a prominent position in sociological theory (see Turner, 1991) spawning much controversy and reams of discussion (e.g., Giddens, 1976, 1979,1984; Parsons, 1951). We are concerned with a more micro view than is traditionally taken in the sociological discussions of social integration by focusing on the processes that take place within business organizations where social integration is accomplished through organization management and control systems of which accounting information systems play an increasingly important role.

[14] Formal and informal types of structures may, or may not, facilitate social integration directed toward the organization's goal. If action is directed toward the organization's goals, we assume that informal mechanisms are currently being motivated by the formal c/c systems. If the informal mechanisms are not congruent with the organization goals, we assume that they were at least initially motivated by the formal systems.

[15] Contradiction refers to opposing forces that are necessary and at the same time destructive of the particular entities or processes (Heilborner, 1980, p.39).

[16] Given the prevailing socio political relationships in western industrial society, the social production-private accumulation contradiction has been resolved in favor of the capitalist and will be taken as a given in the following analysis.

[17] By recognizing that organizations operate within a social system containing fundamental contradictions, we cannot assume the integrating mechanisms are moving the systems toward some ultimate equilibrium.

As they are currently perceived and employed, accounting information systems represent steering mechanisms whereby technique is imposed within the organization as a means for sustaining social integration in order to carry out the economic goals of the organization as defined within the capitalist mode of production. According the Habermas[18] (1984), steering mechanisms are the manifestation of the group interests as imposed through steering media. Steering media, such as money and power, are the means by which material and human resources are allocated in order to foster the prevailing ideology of the dominant group.[19] Accounting information systems are steering mechanisms intended to accomplish the economic goals associated with capital accumulation through the combination accounting technique and information technology. If practices and context are ignored, research directed toward understanding and improving the resulting systems is likely to obscure social forces that restrict human interaction, impede development of facilitating social structures, and ultimately lead to organization crisis within both technical/economic and social spheres.

The Theory

Taking some liberties with Habermas' (1975, 1984, 1987) general formulations about social systems and the agents who construct and inhabit them, we attempt to expand the discussion associated with accounting information systems by explicitly recognizing the practices and context of these systems. The general premise states that as the instrumental rationality of the economic system comes to dominate the administrative and social systems within an organization,[20] the ability to adequately integrate, coordinate, and motivate the individual agents diminishes. Accounting information systems are one of the techno-rational manifestations being implemented as a result of the technical mentality directed toward increased profitability. Given accelerating market demands, these techno-rational manifestations cannot maintain required efficiencies. Further, the processes whereby these information systems are initiated, designed, and implemented do not address the social aspects of the work organization, thus alienating individual commitment and motivation.

An organization operates within a dynamic competitive market environment. An economic crisis occurs as the organization is unable to generate productivity gains capable of meeting increasing market demands. In the case of an accounting information system, the technological innovations, information systems capabilities, and resulting economic efficiencies are not enough to maintain the necessary level of economic profits. As the administrative apparatus struggles to meet the demands of the market, its ability to provide "rational" decisions and justifications for those decisions privileging certain groups and disadvantaging others, deteriorates. As an emerging and powerful technical application, accounting information systems represent one of the areas that has provided productivity gains that facilitate meeting capital market demands. However, as the demands increase, the current applications are no longer able to meet market expectations in terms of economic efficiency. The organizing (management and

[18] Habermas (1975) formulates a critical theory of social systems useful in describing and understanding the forces associated with systems design, implementation, and use (see Dillard and Bricker, 1992). His purpose as is ours is not to develop a causal model of observed social behavior but to point out social tensions and to facilitate understanding and social integration, increasing the opportunities for developing the human potential of individuals in social organizations. See Held (1980) for an excellent presentation of the history and ideology of critical theory, especially that associated with the Frankfurt School and Habermas.

[19] Given the predominance of capital market devices incorporated within incentive compensation schemes, the distinction between capital market participants and executive management seems inconsequential.

[20] An organization can be viewed as being comprised of three components. One is an economic component, which has to do with the creation and accumulation of wealth through the production and distribution of goods and services within the prevailing capital and market context. The second concerns the administrative component designated to carry out the economic activities, meeting the demands of both the external and internal constituencies. The third component includes the individual agents who constitute the organization.

control) systems become over loaded, as does the organization's administrative function. As the individuals within the organization are called upon to expend greater and greater effort, and/or receive a smaller and smaller share of the profits relative to other more privileged groups, the ability of the management/administration to rationalize the inequities is undermined. This crisis in legitimation arises as the administrative component fails to provide adequate rationale, in that the necessary validity claims cannot be supported.

Accounting Information Systems

As accounting information systems become a more prevalent part of the techno-rational apparatus, they become viewed as extensions of vested interests. These transparently ideologically biased social systems become more extensively employed as the primary coordination and control structures throughout the organization. As a result, the administrative apparatus is undermined. The credibility of the accounting information system is destroyed, and commitment to these systems deteriorates. The consequence is system failure. The systems fail in their technical objectives of enhancing organizational efficiency and effectiveness. They also fail in their ability to provide social integration through coordination and control. When this happens, the individuals within the organization can no longer sustain meaning sufficient to motivate continued active participation in the organization activities in general and in the accounting information system specifically. Habermas argues that this loss of meaning within one's work life carries over into one's personal life, affecting perceptions of self worth and social interactions. The individual becomes alienated from his or her work and is no longer willing to make the necessary commitment because of the absence of value in the systems and their objectives. System failures perpetuate and are motivated by these deeper structural problems. Accounting information systems construct and are constructed by the techno-rational mentality and, as such, are ill suited for the nontechnical domain.

As noted earlier, the ultimate purpose of accounting information systems within organizations is to coordinate and control the efforts of people (social integration) within the organizations in order to attain the organizational goals. In the short run, information systems can be imposed that integrate only the production activities, ignoring or subordinating the social needs of the individuals involved. As argued above, such a perspective leads to the ultimate failure in social integration and thus of the systems, which leads to the failure to achieve the organizational objectives. For systems not to fail, the integrating processes must provide control and coordination so individuals and groups of individuals can work together in such a way that the goals/needs of all constituencies are addressed. From a systems design standpoint, such a perspective incorporates a recognition and understanding of the coordination and control mechanisms required of the production process as well as the recognition of the validity claims that Habermas sees as the foundation of legitimate social interaction. Legitimate social interaction leads to legitimate practices associated with the accounting information systems and a much more robust context within which these systems will be used.

Practices and Communicative Action

The next question concerns how to design, develop, implement, and use accounting information systems in such a way as to facilitate the requisite and balanced integrative functions. If the techno-rational perspective dominates the corporate mentality, technique dominates the perspectives taken in processes associated with the design, development, and implementation of accounting information systems for organization control and coordination. The intersection of the technical and the social, represented in practices, is circumscribed by a set of social organizing principles that, according to Habermas, determine available learning mechanisms, the interpretative scope, and institutional control boundaries, in other words the context. Integration problems are resolved as practices are developed through discussion (discourse) among the members of the organization and other affected or potentially affected by the systems. The

limitations of this discursive activity impose the limits of the context and, therefore, the resolution capabilities of the social entity.

Communicative action, Habermas' designation for legitimate discursive processes, requires legitimate communication that can only take place within an ideal speech situation. For communicative action to obtain, three validity claims must be satisfied: truth, rightness, and truthfulness. The "truth" claim concerns external or objective characteristics and requires that the speaker provide grounds for claims that objects or actions actually have the characteristics articulated. For example, the designer has to support the claim that the accounting information system proposed is the most effective and efficient means of obtaining an end. The "rightness" claim refers to conformance to social norms, whereby the speaker provides justification for claims being made that action is correct and proper in accordance with relevant norms or predetermined standards. The system designer is called upon to show that the implementation of the proposed solution is not contrary to the extant social norms. The "truthfulness" claim relates to subjective authenticity relative to perceived and actual intentions, whereby the speaker is obliged to prove trustworthiness. This third validity claim requires that the participant's stated purpose and actual purpose are the same. That is, the speaker must be genuine in his or her behavior. If one individual attempts to manipulate others for personal gain, the dialogue's trustworthiness is placed in doubt. For example, if the speaker claims that he or she will not financially benefit from the adoption of a specific application when in fact the individual would receive a commission from the software provider, the claim is termed strategic. If any of these validity claims fails, legitimate, trustworthy dialogue breaks down, rendering communicative action impossible and thus greatly limiting the problem resolution set. Mutual understanding grounded in previous experience cannot be relied upon as the basis for action. Intersubjective understanding is illusive, and integration processes that use measures beyond coercion become much less likely to be effective. As instrumental practices or systems based on technological ideology come to dominate the organization, intersubjective understanding is rendered impossible. In Habermasian terms, legitimate communication media are driven out by delinguistified media.

The diminished intersubjective space caused by the encroachment of "technological consciousness" reduces the opportunities for legitimate discourse. As opportunities for legitimate discourse are reduced, the intersubjective space is further reduced. The intersubjective link among organization members withers. The social domain becomes dominated by techno-rational manifestations. With the social domain's loss of influence, the techno-rational mentality dominates resulting in an instrumental approach to organization goal setting, decision making, and action. As extant structures become more and more dominated by instrumental reason, processes become more and more automated. Within such a climate, ethical, political, and social considerations are marginalized, subordinated to technical logic. Appeal to techno-rational authority becomes the primary arbitrating criterion. Stated more concretely, as the technical logic comes to dominate the social within an organization, the criterion of economic efficiency overrides all other considerations. Techno-rational authority becomes the means by which conflicts are resolved.

While accounting information systems are only one manifestation of the technological consciousness, they represent a powerful technique for structuring organization practices and context devoid of social considerations. As the technological consciousness comes to pervade the organization, individuals are more apt to accept unquestionably the implications of automated coordination and control systems, thus limiting the ability to actually move beyond the delinguistified processes and structures imbedded therein. The systems embody and institutionalize organization structures and management ideology motivated by the fundamental social contradictions hidden behind friendly user interfaces and ostensibly neutral accounting technique (Orlikowski, 1991). Literally, the accounting information system is making validity claims that cannot be discursively evaluated by users of the systems. Thus, the system fails from two perspectives. First, without adequate input, the design is more likely not to meet the

anticipated needs of the users, and user buy-in is less likely, thus the expected economic efficiencies are not attained. Second, the noncoercive integration objectives of the coordination and control system are not likely to be met.

Application of Communicative Action

We must now consider the possibility for developing, implementing, and using accounting information systems not so predisposed to fail. Below, we outline a rather idealized methodology that begins to move in the necessary direction. Following Habermas (1989), we propose that the discussion be shifted into the "public sphere" [21] where all involved can participate and claims can be openly presented, debated, and evaluated, thus allowing the inherent structural contradictions to be surfaced and legitimate strategies for addressing them developed.

Guidelines for Implementing Communicative Action

In order to attain the necessary social integration, the chosen course of action, in this case the application of an accounting information system, can be arrived at only through consensus among the affected parties. Such a dialogue and desired resolution can be achieved only when the conditions of legitimate discourse (communicative action) are met. Drawing on Kettner's (1993) work, we attempt to translate Habermas' generalities into a more concrete methodology for addressing accounting information systems in organizations. There are five dimensions to be considered: generality, autonomous evaluation, role taking, power neutrality, and transparency. By implementing processes that incorporate these dimensions, managers, systems designers, users, and other affected parties are more likely to engage in legitimate discourse as information systems are considered, designed, developed, implemented, and used and, as a result, reduce the likelihood of system failure.

Generality requires that the dialogue be open to all affected parties competent to participate. Everyone affected by the implementation of the system should have an opportunity to make his or her position known. These parties include not only systems designers and administrators but also users, employees whose jobs would be affected or eliminated, and decision makers who would use the system's output. External groups who might also be affected and therefore involved, include financial analysts, creditors, customers and suppliers as well as community representatives, if the systems have potential impact beyond the organization domain.

Autonomous evaluation refers to the individual's ability to freely express one's own individual interests and needs and have these included in the discussion of the proposed project. By the same token, these individual interests should be subjected to criticism by other participants. The criticisms are in the form of challenges to the validity claims of the positions presented that would identify irrational or dogmatic arguments. Interested parties seek to implement and sustain media whereby individuals feel free to articulate wants and concerns without fear of repercussions.

Role taking requires participants to transcend their own positions, suspending their own interests, in attempting to view the situation from the perspectives of, and the implications for, all participants. By assuming the roles of the other parties, system designers seriously contemplate the positions of all affected parties. Likewise, the interests of the system designers must also be the focus of critical analysis. Ideally, each party would take on the role of the other parties within the process of discussion and debate, thus facilitating mutual understanding.

Power neutrality requires that participants in the dialogue hold positions of equal power and must be able to freely express their views. In undistorted communication, participants are not subjected to asymmetrical power relationships and do not feel coerced in any way. In an

[21] Also see Calhoun (1992) for a critique of Habermas' ideas concerning the public sphere.

organization setting, managers hold power over systems designers and users, and vice versa. The managers can fire the designers, or the designers might leave the firm. Likewise, the board is in a position to fire the manager. If one or more of the parties are in a position of greater power, each participant may withhold certain statements, anticipating negative consequences from one or more of the other participants. Discourse under such circumstances is more likely to be strategic or instrumental, negating the possibility of communicative action. In order to avoid such a situation, mechanisms and processes must be developed that permit all parties to participate in the discussion without fear of reprisal. Attaining a power neutral setting requires a high level of trust among all involved. If the necessary level of trust is not attained, anonymous dialogue, possibly using electronic technology, might be necessary.

Transparency requires that legitimate communication must be noninstrumental or nonstrategic. In order to minimize instrumental action, it is necessary to make one's individual interests, strategies, and goals known to the other participants. Within a design setting, if the organization intends to standardize or deskill work, or to reduce the work force, management must make the participants aware of these intentions. If intentions or goals are not articulated or are misrepresented, consensus based on full mutual understanding cannot be attained.

These five dimensions or characteristics of an ideal speech situation provide a guide or template for developing processes that are part of a methodology whereby successful system applications can take place. Organizations and designers committed to inclusive and rational dialogue among the affected and interested parties can incorporate these dimensions into systems design and evaluation processes. All interested and affected parties are included in the discussion and encouraged to express their views. All participants make their strategies and intentions known, and all are committed to questioning and validating discursive claims with the intention of choosing a course of action based on the strength of the better argument.

A Methodology for Accounting Information Systems Applications

There have been a few attempts in the information systems literature to expand the dominant techno-rational perspective in a direction consistent with Habermas' ideas, viewing participation as an end in itself. These approaches support self determination, self reflection, and institutional issues relating to social justice and human freedom (Alvesson and Willmott, 1992) and are considered to be successful if the resulting systems increase mutual understanding and enhance human potential. Perhaps the most ambitious attempt to develop a more inclusive and socially oriented methodology has been undertaken by Mumford (1983) and extended by Hirschheim and Klein (1994). Both technical and social goals are specified early in the process through extensive participation by affected parties at all levels of the design process. Technical goals address the needs of the organization, and social goals address the needs of the system users. Their methodology proposes that two system development teams be constituted to pursue these goals, and that the resulting system design includes the parameters specified by both teams. There is a need both to go further toward Habermas' ideals with the methodology and also to seriously consider a more complete set of those affected by the proposed system. We briefly outline how this might be done.

System Planning. First, a pluralistic mode of inquiry (e.g., Hirschheim and Klein, 1994) is required that recognizes all individuals and groups affected by the anticipate system. The interests and values of the participants are varied and potentially conflicting. The characteristics and outcomes of what constitutes a "successful" project may differ significantly depending on a participant's position. In order to satisfy the requirements for an ideal speech situation, all interests must be considered and debated as part of the development methodology. For example, if the organization is considering installing an enterprise resource program (e.g., SAP), traditional development methodology includes an evaluation of the system's impact on the organization, its managers and their decision making capabilities, and the users. A more pluralistic methodology

would include nonuser employees and potential employees, customers, suppliers, investors, and the community.

Second, by expanding the development process to include problem identification and specification, participants with differing perspectives have a part in defining the design parameters. The chances increase for both social and technical issues being included. For example, the primary objective of the organization is efficient production of goods and services that results in profitable operations and an adequate return to capital interests. Loss of jobs, work deskilling, cost of reeducation, difficulty in assigning responsibility, lost opportunities for personal development, increased costs to suppliers, relocation costs of displaced employees, the implications for the community as a result of shifts in focus, and changes in the work force requirements do not enter the traditional project calculus.

The values and interests of each participant must be expressed and explored. In the process of identifying and evaluating projects, each participant or group representative is encouraged to formulate and articulate their values, biases, and goals, thus facilitating expression and critical evaluation. As a result, self awareness, mutual understanding, and shared expectations are more likely to develop. Guidelines for development may follow more traditional lifecycle or prototyping approaches but can also be specified in light of the shared insights and understandings. The objective is to institute a methodology that is fair and inclusive and to implement this methodology as project teams are established, opportunities identified, and systems are developed, installed, and tested. Objectives, means for monitoring use, and criteria of evaluating systems outcomes are also specified. As a result of including the varied backgrounds, values, and objective sets, the likelihood increases of articulating an expanded set of systems opportunities and implementation alternatives, as well as of more effectively addressing potential problems or negative impacts on one or more of the individuals or groups as a result of system implementation. For example, if the proposed system degrades the quality of work and the potential for professional growth and advancement for a specific group of employees, the project could either be modified before development or an agreed upon career development program could be initiated in a timely matter in order to transition the affected group.

System Development. Project opportunities have been specified and prioritized. A preliminary design and analysis of the project alternatives are undertaken providing specificity and clearer insights into implications and possible outcomes. Alternative designs can be considered and compared with the results of the planning stage. Implicit in this activity, participants or their representatives may need to become more knowledgeable about the technologies being used, in order to responsibly oversee and evaluate the development process and the outcomes thereof. A working prototype may also be tested and evaluated. The success criteria specified in the planning stage are reviewed and revised if necessary. The acceptance criteria might include traditional measures such as error rates or decision support capabilities as well as social criteria, such as the effect on work arrangements, user evaluations, and social implications. Only after the processes by which the system is to be developed and the outcomes anticipated are specified is the accounting information system designed, built, and tested.

Applying Habermas' ideas of communicative action sensitizes participants to the possibility of biases and distorted communication. By including the validity claims within the analysis and development process, it is more likely that asymmetric power relationships are identified and dealt with. Critique by all affected parties is encouraged. Implicit in the evaluation is the accessibility of data sources and analytical models by all participants as well as the means for communication.

System Use. At this stage, the intended and unintended consequences of the system are identified and evaluated. The projects are monitored on an ongoing basis to ensure the systems are being used as anticipated. Further, the commitments made by and to participants are also monitored. Again at this stage the system success criteria are evaluated and modified, if

necessary, in a way acceptable to all participants. Further, as the needs and goals of the participants change in response to the dynamic environment within which they act, there must be ongoing processes for considering possible changes and for implementing the modifications necessary in order for the systems to continue to meet the needs of the organization and the participants. When the accounting information system no longer can be modified to meet the changing needs or is found to be oppressive to any of the participants, the it must be taken out of service.

Closing Remarks

Systems success cannot be viewed from solely a technical perspective. Information systems are implemented within organizations. Organizations are designed to achieve social integration in pursuit of organizational objectives. Accounting information systems represent an integral part of management and control systems designed to facilitate the requisite social integration. One must understand the fundamental contradictions in the socio political system in order to understand and represent the setting within which accounting information systems are designed, implemented, and used. Thus, accounting information systems must be addressed from three levels: the physical or applications level; the practices associated with design, development, implementation, and use; and the context within which the systems are instantiated. Habermas' social theory provides a framework for describing and evaluation accounting information systems at these three levels. It also provides a theory grounded means to understand application of systems within a complex, dynamic, socio political context, and therefore can provide a framework for system implementation that considers practices and context in addition to the technical. As a result, systems can be developed that will be less likely to fail, in the broadest sense of the term.

We have moved outside the dominant functionalist paradigm and employed the lens of radical humanism. The preceding discussion has presented a rather idealistic methodology for developing and implementing accounting information systems. Grounded in the social theory of Habermas, arguments are made, and illustrations are presented, to significantly expand the number of interest groups having significant input into the processes of design, development, application, and use. By grounding the development methodology in social theory, we expand the traditionally narrow, noninclusive, and instrumental perspective. We have illustrated how the theory can be used to formulate alternative views and provide the basis for explicit recognition of the assumptions and ideologies underlying systems applications. By engaging in a more in depth, ordered, and critical evaluation, technically more complete and socially responsible accounting information systems are more likely to be developed.

If one accepts the premise that business organizations are goal directed social groups, then the organization's function is the integration of the social entities that populate said organization. Social integration can take place through multiple venues. Agents construct and reconstruct, facilitate and are facilitated by, the social structures. Though we have briefly discussed these constructs, a need exists to further develop the interrelationships within organizational contexts as they constitute and are constituted by the application of accounting information systems. The extension should move explicitly to incorporate the tenets of communicative action in developing ideal types of integrative organization structures.

The functionalist based ideology – the dominant perspective – has been evaluated, and the inadequacies well documented (e.g., Chua, 1986). In an extreme reaction, social theory is moving toward post structuralism and postmodernism that abandon hope in the inevitability of progress within social systems (Dillard, 1998). Reality is only the appearance thereof, based on, at best, relative symbolic manipulations. Such a position leads at best to relativism and at worst to a neoconservative position incapable of responding to hegemonic tendencies. Habermas is struggling to salvage some modicum of stability and progress for modernity. Communicative

action with its focus on legitimate discourse and grounding in validity claims required for undistorted communication is set forth as the means for overcoming the relativism of postmodernism and the unwarranted universalist claims of the modernist theorists, though some have placed Habermas squarely in the latter camp (Lyotard, 1987).

Some might argue that the primary weakness of such a proposal, as herein set forth, is its idealistic nature. This, in our opinion, relates generally to matters of taste and in what might be termed a false claim to rigor. Research and development grounded in social theory can provide useful and significant insights relative to the traditional perspectives and ideologies generally encountered in the AIS literature. As for the specific social theory drawn on here, Habermas has been subjected to significant criticisms from both the left and the right.[22] However, hopefully our discussion indicates that there is significant merit to his ideas and in applying them in accounting information systems research and practice.

We have only scratched the surface in the application of social theory to AIS research and practice. It has been suggested that social theory can provide a legitimate basis and guidance for developing processes that can be useful in implementing and understanding information systems in business organizations. At this point, there is an obvious need for further development of methodology based on the guidelines presented here. We recognize the idealism of the proposals and Habermas' communicative action, especially within the current context of the pervasive necessity of wealth accumulation. However, we can motivate a shift in perspective toward a more inclusive and humane position at a local level. By having a vision of inclusivity and legitimate discourse, the current processes and structures can be at least reflexively evaluated using criteria that go beyond instrumental exploitative relationships. The issues are too complex and the consequences are too severe to exclude any legitimate avenues for gaining understanding and guidance for action.

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[22] For examples of those critical of Habermas' work see, for example, Bernstein (1985), Held (1980), Lyotard (1984), and White (1988).

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