

Institutional Forces In Accounting Information Systems Choice

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Abstract

The selection and implementation of accounting information systems (AIS) has been portrayed by the past literature to follow models of rational behavior, such as the system resource model and the goal model. The analysis in this paper develops the argument that these models cannot fully explain AIS choices with regard to which systems are implemented and which objectives and goals are pursued. Institutional models, developed by theorists in the sociology of organizations, can provide a broader evaluative framework within which AIS choice can be explained. The paper presents the mechanisms of coercive isomorphism, mimetic isomorphism and normative isomorphism through which institutional influences can affect AIS choice. These mechanisms have been developed by institutional theorists to explain the movement towards the implementation of increasingly similar institutionalized procedures and practices across organizations. External dependencies, uncertainty in performance standards, and interaction patterns during the system selection process are identified also as conditions that could moderate the strength of institutional influences on AIS choice. Implications for accounting professionals are drawn and recommendations for future research are made.

Introduction

This paper expands upon the technical/rational explanation of accounting information systems (AIS) choice by applying the institutional model of organizations to AIS choices regarding which systems are implemented and which objectives and goals are pursued. The traditional view of AIS choice in the past literature is derived from a technical/rational framework (Ives, Hamilton and Davis 1980; Reneau and Grabski 1987). This framework is built upon two technical/rational models developed in organization theory to explain change in organizations. These models are (a) the system re-

source model, emphasizing outcomes such as the quality of support for AIS users and (b) the goal model, emphasizing the attainment of productivity and decision quality outcomes for AIS users (Georgopoulos and Tannenbaum 1961; Molnar and Rogers 1976; Scott 1977, 1987a; Yuchtman and Seashore 1967). Outcome measures drawn from each model were used as indicators to explain phenomena of AIS choice (Davis, Bagozzi and Warshaw 1989; Srinivasan 1985) and as criteria to assess AIS effectiveness (Bailey and Pearson 1983; Chenhall and Morris 1986; Davis 1989; Doll and Torkzateh 1988; Hamilton and

Chervany 1981; Ives, Olson and Baroudi 1983).

The institutional model offers a broader perspective from which to explain AIS choice. The major focus of the institutional model is on the direct impact that institutional rules have on AIS choice. Whereas, technical/rational models highlight the instrumental role of organizational action to attain desired AIS outcomes as derived from the system resource and goal models, the institutional model emphasizes the symbolic role of organizational action. Symbolic organizational action is designed to respond to environmentally rationalized rules and procedures and to maintain survival prospects (Scott 1987a), regardless of the "immediate efficacy of the acquired practices and procedures" (Meyer and Rowan 1977, 340).

Although the institutional and technical/rational models differ regarding the motivation for and purpose of AIS choice, they, nevertheless, offer complementary explanations concerning responses to environmental pressures. Conceptual arguments supporting the complementarity of instrumental and symbolic roles of organizational action are presented mainly by Oliver (1991) and Scott (1987a). As Scott discusses, "Institutional arguments need not be formulated in opposition to rational or efficiency arguments but are better seen as complementing and contextualizing them" (1987a, 509). In addition, empirical studies examining differing uses of accounting information suggest that AIS choice is influenced not only by the task environment and technical nature of work performed by an organization, but also by the institutional environment of the organization and the need to demonstrate conformity to institutionalized expectations of rational practice (Ansari and Euske 1987; Bao and Bao 1989; Carpenter and Feroz 1992; Gupta, Dirsmith and Fogarty 1994). The present paper, therefore, is an attempt to elaborate on the effects of the institutional model on AIS choice, the model least examined in the past AIS literature.

The examination of institutional influences on AIS choice is important for two rea-

sons. First, the traditional role of accounting as a rational system providing information for decision making has been expanded upon. Accounting systems support both operational and strategic decisions in organizations (Mia and Chenhall 1994). In addition, they assume multiple roles such as motivating individuals to perform certain actions, aiding the exercise of influence and control, increasing the confidence in decisions made in uncertain and ambiguous situations and furthering particular interests in an organization (Ansari and Euske 1987, 551). As a result, the assessment of AIS choice based upon a technical/rational model alone would ignore influences from the institutional environment that could have a significant effect on the goals and objectives of systems that assume such varied roles and support a wide range of decisions. Second, institutional influences can be important because of the nature of AIS choice. These choices often are made without the availability of objective criteria that can direct the decision process. The lack of a clear link between AIS choices and resulting performance improvements in the organization is likely to lead to situations where symbolic requirements of the organization supplement technical, rational decision needs and requirements in making AIS choices. As a result, researchers and professionals examining issues in AIS choice within organizations should be cognizant of these institutional factors.

The remainder of this paper first synthesizes current models of AIS choice and then introduces the institutional model. The possible conditions that could moderate the applicability of institutional factors in AIS choice are presented next. The emphasis is on differences in the sources of institutional influence and in the mechanisms through which they could affect AIS choice. The paper concludes with recommendations for accounting systems professionals and for future research.

Review and Synthesis of Current Models of AIS Choice

Existing research has utilized outcomes

suggested by the system resource and goal models as evaluation criteria for assessing system effectiveness (e.g., Davis 1989; Doll and Torkzateh 1988; Lucas, Ginzberg and Schultz 1990; Nicolaou 1993; Sanders and Courtney 1985; Schultz and Slevin 1975; Seddon and Yip 1992). Although the system resource model and goal model were not used in the past literature to propose relationships concerning AIS choices, the outcome criteria suggested by these models were found to be valid indicators of system effectiveness (e.g., see Hamilton and Chervany (1981) for a review). To the extent that these models are useful for evaluation purposes, an assumption is made that they also could be employed successfully to explain AIS choice.

The system resource model was developed originally by Yuchtman and Seashore (1967) to explain organizational effectiveness based upon the nature of interaction processes between the organization and its environment. Effectiveness was defined in terms of the organization's "bargaining position" in acquiring resources necessary to maintain its survival capabilities (Yuchtman and Seashore 1967, 898). Various effectiveness criteria based on this model have been utilized in the information systems literature. Measures of system utilization, response time, down time, and running costs, for example, have been suggested as performance measures for a system (Eilon 1993). DeLone and McLean (1992) have performed a comprehensive meta-analysis of the literature on system success. They classified measures of system success that could be derived from the system resource model into the following four categories: (a) measures of system quality such as system response time, reliability and accessibility; (b) measures of information quality such as accuracy, completeness, reliability, relevance and timeliness of output information; (c) measures of information system use such as frequency of use; and (d) measures of user satisfaction such as satisfaction with level of support of systems department personnel (DeLone and McLean 1992).

Prior accounting literature has emphasized the extent to which an AIS can generate

output information that supports the information needs of system users. Empirical studies in AIS suggest that variations in characteristics of output information, such as information scope, aggregation, timeliness and integration, represent design requirements that are influenced by such factors as perceived environmental uncertainty (Chenhall and Morris 1986; Gordon and Narayanan 1984; Hayes 1977; Merchant 1981; Waterhouse and Tiessen 1978), organizational structure (Bruns and Waterhouse 1975; Chenhall and Morris 1986; Gordon and Miller 1976; Gordon and Narayanan 1984), task interdependence (Macintosh and Daft 1987), task predictability (Kim 1988), task variety and analyzability (Macintosh 1985) and functional differentiation (Mia and Chenhall 1994). An effective AIS design, therefore, must provide a "fit" between the extent of information processing demanded by the organizational context and the processing capabilities of the system, that is, the characteristics of output information provided by the system. Related studies in the information systems literature also have examined issues of fit between a system and its organizational context of use. Markus and Robey (1983) analyzed different types of interactions between an organization and a system and defined four different types of fit or "organizational validity": user-system fit, organization structure-system fit, power distribution-system fit, and environment-system fit. These types of fit or validity exemplify the multiplicity of objectives that influence decisions regarding the selection and implementation of information systems. Thus, the fit of a system with its context is a robust concept that represents the system resource perspective in AIS choice.

A complementary objective for an AIS would suggest that its utilization should assist a user to attain desirable outcomes, such as enhanced productivity, efficiency and decision effectiveness. In their meta-analysis, DeLone and McLean (1992) classify such success measures into two categories: impact of the system on (a) individual performance and (b) organizational performance. This is consistent with the prescriptions of the goal model and the wide range

of criteria that were developed in the information systems literature to evaluate perceived system usefulness (cf. Davis 1989; Davis et al. 1989; Lucas et al. 1990; Robey 1979; Schewe 1976; Schultz and Slevin 1975). An evaluation of system usefulness would indicate whether the system exerts desired impacts upon the organization and users and it would precede the adoption and further development of a system in an organization (cf. Cooper and Zmud 1990).

Recent reports about the types of criteria used by professionals to evaluate information systems effectiveness (Kumar 1990; Newman 1989) provide corroborating evidence about the validity of these approaches. Kumar (1990) mentions the use of both information quality criteria, reflecting a system resource model perspective, and other criteria assessing the impact of a system on user productivity and effectiveness, reflecting a goal model perspective.

Under the institutional perspective, AIS choice would not be geared solely toward the support of system users or the attainment of technical/rational outcomes, but also could be made in order to maintain or enhance survival prospects of an organization in its environment. The institutional model, therefore, could suggest significant influences upon AIS choice that also should be examined along with the other factors suggested by the system resource model and the goal model.

An Institutional Theory Perspective of AIS Choice

Our thesis about AIS choice is simply that organizations choose certain accounting information systems because the choice of such systems is the right thing to do. This thesis is derived from institutional theory. Institutional theory highlights the symbolic aspects of an organization's context by emphasizing the role that rationalized rules or belief systems have in shaping and determining organizational form and action (Meyer and Rowan 1977). As Scott (1987b, 115) explains, the most fateful forces are the result not of rational pressures for more ef-

fective performance but of social and cultural pressures to conform to conventional beliefs.

Conventional beliefs are normative expectations about behaviors, attitudes, and values (e.g., what is the right walk to walk, the right talk to talk, the right look to look) that function as "myths," because they are widely held and cannot be tested objectively. For example, the use of computer-based accounting information to support management decision needs is widely accepted, although an association between the use of such information and performance cannot be tested objectively (Ives et al. 1983). As a result, surrogate measures of utility in decision making have been devised and used to examine the success of such systems (cf. Seddon and Yip 1992). Myths are rationalized through the establishment of rules that specify procedures necessary to accomplish a given end (Scott 1987b, 114). For instance, as early as 300 B.C., Zenon of Citium founded Stoic philosophy which was based on the underlying importance of myths (divine rules that govern nature) to provide reason, order and harmony to the existence of the world. An important point made by institutional theory, therefore, is that these rules often have little to do with technical or economic efficiency. Instead, conformity to these rules allows organizations to establish their legitimacy, regardless of whether or not such conformity leads to increased efficiency. Thus, AIS choice may occur irrespective of whether such actions lead to increased productivity or improved financial performance. To the extent that AISs share similar information support objectives and carry similar functionalities across different organizations, they become institutionalized with their use considered necessary for legitimating operational, planning and management control decisions.

The symbolic functions of institutions are imposed upon organizational form and action through three regulatory mechanisms and/or processes. For example, institutional regulation and influence were prevalent in Laudon's (1985) study of information systems development and in the King et al. (1994) analysis of the development, adoption and diffusion of information

technologies. These regulatory mechanisms and processes have been identified by institutional theorists as coercive isomorphism, mimetic isomorphism and normative isomorphism (DiMaggio and Powell, 1983). These mechanisms aid in explaining why institutionalized procedures and practices across organizations tend to become similar over time. In the next section, we sketch how each mechanism may operate to influence AIS choice.

Mechanisms of Isomorphism in AIS Choice

Coercive Isomorphism

The first mechanism promoting similarity is called coercive isomorphism. Coercive isomorphism refers to the external pressures placed on an organization to conform to rules and practices that are considered important within an industry. Implicit in this mechanism is the threat of punishment or the use of force if an organization does not comply with standard practices. With respect to AIS choice, coercive isomorphism may dictate that an organization choose a particular type of AIS, where the system structures and functionalities are designed in a certain way. For example, government mandates for specific reporting requirements in regulated industries and in organizations fulfilling government contracts represent constraints that influence the entire design of a system. Cultural expectations also create constraints in the design and use of systems. The airline industry offers a good example. American Airline's SABRE system was the pioneering application in airline reservation systems. As its use spread, other airlines and travel agencies were under pressure to utilize the system in their operations. The system became institutionalized, responding to expectations from the public to offer the quality of service commensurate to the quality made possible by using the SABRE system. The presence of social constraints is also evident in the implementation of AISs in government agencies. For example, system selection efforts at the United States Internal Revenue Service and Social Security Administration for the past three decades

have been driven by such demands from the United States Congress. The United States General Accounting Office's (GAO) reports suggest the spread of those influences (e.g., GAO 1992). Thus, organizations conform to social constraints to select AISs consistent with expectations in order to demonstrate legitimacy in operational and managerial decision making. As a result, the social context shapes actions and, in turn, those actions help modify the construction of socially accepted alternatives over time.

Mimetic Isomorphism

The second mechanism that encourages similarity has been labeled mimetic isomorphism. Mimetic isomorphism, or "follow the leader," is driven by the desire to reduce uncertainty, minimize risk, ensure survival and gain legitimacy by choosing to select and implement AISs used by the most prestigious, visible members of an industry. Where a technology is poorly understood, goals are ambiguous, or the environment creates symbolic uncertainty, imitation is encouraged and used as a response to such uncertainty (DiMaggio and Powell 1983; McKinley, Sanchez and Schick 1995). Imitation is also used to enhance the legitimacy of means utilized in an organization, even though there may not be concrete evidence that adoption of such procedures enhances efficiency or effectiveness. In AIS choice, late adopters of a technology often mimic earlier implementations in order to both reduce uncertainty and enhance their conformity to an accepted type of system design, therefore ensuring legitimacy of the means used to support decision making. An example of mimetic isomorphism at work is the American Airline's SABRE system mentioned above. The adoption of the SABRE system by American Airlines created peer pressure on the other airlines to keep up, which is one reason underlying the widespread use of the system. Both coercive isomorphism and mimetic isomorphism, therefore, derive their appeal from similarity. Their power is based upon a shared interpretation of important values in the organizational and social context.

Normative Isomorphism

The third and final mechanism fostering similarity is known as normative isomorphism. Normative isomorphism or "learning" refers to the complex network of educational institutions and professional associations by which organizational participants learn "the ropes to know" or acceptable norms of practice (DiMaggio and Powell 1983; McKinley et al. 1995). For example, take the formal business education that organizational members receive in universities. The purpose of such education is to train members of a field to perform their jobs in generally-accepted ways. One approach to accomplish this purpose is to standardize business education by teaching a common body of knowledge and a common set of skills, techniques, methods, processes and world view. This is what United States business schools have done by joining together to create the American Association of Collegiate Schools of Business (AACSB), which uses accreditation to promote standardization of the business school curriculum. One goal of accreditation, at least implicitly, is to graduate interchangeable students, who will see the same kind of things and make decisions in the same way, regardless of which accredited business school they attended (Dillard 1995). Regarding the specific phenomenon of AIS choice, just-in-time inventory, activity based cost management and target costing are examples found in the curricula of United States business schools of how normative isomorphism stimulates AIS choice.

Learning is also nurtured in professional associations (DiMaggio and Powell 1983). Through conferences, work shops, in-service educational programs and professional publications, information is exchanged about what practices are appropriate in what circumstances for established practitioners. For example, shifts in AIS user perspectives, coupled with decreasing costs of information gathering, processing and retrieval, have exerted pressures for a changed role of accounting professionals from the traditional information provider to an information interpreter (Borthick 1992), imposing greater decision making responsibility on the accountant re-

garding AIS choice and a higher degree of accountability regarding the support of varied information needs. In addition, certifying institutes, through their certification examinations, can establish the skills needed by their potential new members and, thereby, influence what is taught at universities (Cooper 1996, 41). Thus, learning is a powerful force that can drive the set of organizational needs and determine expectations about information support. As a result, different organizations, employing individuals with similar educational backgrounds, interests and contacts, become more similar in their need for information support and, consequently, in the AIS choices they consider acceptable.

Coercive, mimetic, and normative isomorphism help illustrate the types of social forces that give rise to AIS choice as the thing to do and enhance the similarity of AISs across organizations. To the extent that similarity or conformity is perceived to lead to such rewards as increased legitimacy, resources, and survival capabilities (Scott 1987a, 498), institutional forces could affect AIS choice through the aforementioned mechanism(s). Nevertheless, the stimuli for the three mechanisms of isomorphism are varied and do not influence AIS choice with equal vigor. In the next section, three conditions are identified that enhance the strength of these isomorphic mechanisms on AIS choice. These conditions set the context within which AIS choices are made and specify the domain of possible sources of influence over such choices. They also are based upon similar conditions presented by DiMaggio and Powell (1983, 154-155) and McKinley et al. (1995) as the primary predictors or moderating factors of the movement toward similarity.

Moderating Factors of Isomorphism in AIS Choice

External Dependencies

When dependencies exist on other organizations for critical resources, the dependent firm experiences a constraint to conform to the norms and values advocated by the dominant

partners (DiMaggio and Powell 1983, 154). For example, the implementation of automated accounting systems to support efficient interchange of order and invoicing data between an organization and a supplier can result in a significant commitment of capital and human resources (Borthick and Roth 1993). This relationship can limit the gathering of information about alternative system solutions to those offered by the existing supplier of such systems (Griese and Kurpicz 1985; Masoner and Nicolaou 1996). As a result, such investments are often transaction-specific, requiring extensive cooperation between the two organizations for successful implementation, and thus made irretrievable (cf. Williamson 1979). This creates pressures for AIS choice that maintain existing relationships and ensure the continuation of the existing systems in order to minimize the costs and risks associated with switching to a different system. Coercive pressures are therefore built into such relationships in order to enhance homogeneity in the procedures followed and facilitate cooperation. Furthermore, as Staw and Ross (1987) suggest, the process of institutionalization will result in an escalation of the organization's commitment to the system, thus reducing the likelihood that the economic suitability of the system will be questioned.

External dependencies also are very prevalent in types of organizations or industries that are faced with strong technical and institutional influences. Financial institutions, utilities, and airlines are commonly identified as such (Scott 1987b). These organizations are often subject to coercive pressures from government entities to develop AISs that will provide information useful in exercising institutional regulation and control. Nicolaou (1993) provides empirical evidence about the existence of government regulatory reporting in these types of organizations. As a result, external constraints to choose an AIS that conforms to government reporting requirements will be reflected strongly through the mechanism of coercive isomorphism. In sum, coercive isomorphism is demonstrated as a powerful social force in the choice of government-mandated and transaction-specific AISs.

Unclear Performance Standards

Performance standards for some types of AIS choices are relatively clear. An example is when AIS choice is directed toward the attainment of well-specified and crystallized outcomes, such as reducing the working capital invested in inventory. Here, the choice is driven less by an inclination to conform or imitate and more by a desire to improve specific results, such as increase inventory turnover. Other AIS choices are made in situations, however, where (a) beliefs about cause-effect knowledge are incomplete, (b) decision criteria are ambiguous, (c) decision quality requires a long time to establish, and (d) the success of a decision cannot be evaluated autonomously but depends upon other decisions, the results of which may not be accurately predicted or controlled. In such circumstances, both organizational theorists (Feldman and March 1981; Thompson 1967) and institutional theorists (DiMaggio and Powell 1983) suggest that organizations will seek to reduce uncertainty by employing symbolic measures of fitness to evaluate past actions and plan for the future. This is certainly so with respect to AIS choice, where the success of AIS choices made by information systems professionals are most often determined by the users' acceptance of the system (Kumar 1990; Newman 1989), with such indicators of success then being used to guide future AIS choices.

Thompson (1967, 86-87 and 95-96) suggests that when knowledge of cause-effect relationships is incomplete, organizations will evaluate actions in terms of "organizational" rationality, where performance measures are obtained from social reference groups, rather than on the basis of "technical" rationality. Consistent with Thompson's suggestions, Feldman and March (1981) also propose that decision making behavior within a context, such as that which involves AIS choice, can become highly symbolic. When objective criteria that would allow a maximizing or optimizing approach to the assessment of decision performance are absent, other visible aspects of the decision must serve as implicit indicators of decision quality, such as conformance

to expectations or imitating similar types of systems existing at other organizations (cf. Feldman and March 1981, 177-178). Both coercive isomorphism and mimetic isomorphism, therefore, become important sources of influence in reaffirming the social virtue of AIS choices that are characterized by uncertain consequences.

Interaction Patterns During AIS Selection

Frequent interaction between an organization, its personnel and a variety of external constituents can magnify the importance of all three mechanisms of isomorphic forces on AIS choice. Such interconnectness has been suggested to facilitate the voluntary spread of institutional norms (DiMaggio and Powell 1983; Meyer and Rowan 1977). Examples of frequent interactions are those that occur between an organization or its personnel with customers, vendors of hardware and software systems common to firms in the industry, consultants who are also employed by competing organizations, and competitors and their personnel through informal social contact and participation in professional associations, trade shows and conferences. These interactions help organizations to learn about one another's problems and solutions, whether they intend to or not, and facilitate imitation of each other's AIS choices. Thus, mimetic and normative isomorphism influence AIS choice by contributing toward the spread of certain types of system solutions that have proven effective in performing common tasks across different organizations.

Both Meyer and Rowan (1977) and DiMaggio and Powell (1983) imply that the frequency of interactions among organizations stimulates the development of institutional rules that over time delineate the norms of acceptable behavior. As organizations interact, these rules begin to limit the discretion of decision makers, including those charged with making AIS choices. For example, employees, vendors or consultants of an organization may impose constraints regarding the selection and implementation of decision support applications integrated with traditional transaction processing systems,

of applications facilitating workflow management, or of systems that provide flexibility in user interface design. Thus, frequent interaction is an important condition that increases the effect of coercive isomorphism on AIS choice.

Exhibit 1 summarizes the discussion in this section by showing the three social forces of isomorphism in AIS choice and the conditions that promote each of them.

Implications for Accounting Systems Professionals

The three isomorphic social forces in AIS choice and the conditions that promote them, as depicted in Exhibit 1, lead to one major implication for accounting system professionals who are involved in the selection and implementation of AISs. This implication has to do with the issue of who ultimately controls AIS choices. That is, does the impetus for AIS selection and choice come from within the organization or is it essentially imposed from outside? The control issue manifests itself in several ways as is discussed below.

Purpose of AIS Choice

AISs are formal mechanisms or processes established to support management in their decision making. Their general purpose is to allow for the gathering, processing, evaluation, reporting, and interpreting of information useful to management. A central premise of this paper is that AIS choice is highly context-oriented and can be affected by a variety of technical/rational and symbolic/institutional forces. This raises the question of which set of forces will prevail, determining the purpose of AIS choice, and, hence, the priority and desirability of certain types of activities and information. For example, institutional forces are compelling quite strongly an emphasis on such AISs as just-in-time inventory systems (JIT), total quality control (TQC), activity based costing (ABC) or activity based management (ABM), and process value analysis (PVA). Although there is some linkage between these systems and the generation of revenues

(e.g., better quality products or lower prices may lead to more sales), these systems essentially are production oriented. Their implementation is designed to reduce costs and improve efficiency, which is "concerned with doing things right" (Drucker 1977, 40). The information provided may be either financial or nonfinancial, but it is also usually historical and/or relates to the organization's internal operations.

Perhaps, however, the focus of AIS choice should be on the revenue side of the profit equation. That is, management should seek information, for example, that would help in the creation of new markets or the development of new products, or indicate the need to redefine existing markets or reengineer current products. These AISs would try to provide information to management that might allow them to answer the crucial questions of "Which of the markets and/or end uses are capable of producing extraordinary results? Which of the products really produce extraordinary economic results or are capable of producing them" (Drucker 1977, 40). Their implementation would be designed to increase revenues and promote effectiveness, which "is doing the right things" (Drucker 1977, 40). Drawing the attention of management to the revenue side would give them the opportunity to "seek to produce extraordinary results," which is essential for success, "rather than the 'ordinary' ones which is all efficiency can possibly produce" (Drucker 1977, 40). The information

provided on the revenue side also may be either financial or nonfinancial, but it is usually also future oriented and/or external to the organization.

AIS Champions

By virtue of what they deem relevant, institutional pressures also prescribe specific skills and expertise as important, helping to privilege those within organizations who hold such expertise and skills. Thus, institutional pressures help to anoint specific groups of individuals as AIS champions. The result is an implicit bias in AIS choice that reflects the "champion's" expertise and training as well as what they perceive to be important or not important. For example, as discussed above, institutional pressures appear to be promoting AISs that spotlight cost management. This focus, in turn, enhances the stature of those individuals who develop, advise on and use these systems, such as accountants, production people and information systems specialists. Their increased ascendancy in organizational stature and increased recognition as AIS specialists can make it difficult to promote AIS choice that falls outside their sphere of expertise and training. For example, the institutional pressure of normative isomorphism or learning may be a significant impediment to accountants developing revenue oriented AISs. Accountants appear not to feel comfortable with imprecise, subjective, future oriented and externally derived information that

Exhibit 1
Social Forces In AIS Choice And The Conditions That Promote Them

Promoted by:	Social Forces		
	Coercive Isomorphism	Mimetic Isomorphism	Normative Isomorphism
External Dependence	X		
Unclear Performance Standards	X	X	
Frequent Interactions	X	X	X

is often associated with such systems. Thus, accountants seem to champion cost oriented AISs more, in part because they are experts on costs, but also possibly because the information associated with such systems is more precise and objective because it is internally derived.

Leader or Follower

Successful firms, whether they be profit seeking, not-profit oriented, or governmental agencies, tend to be innovative in origin. They dare to be different, taking calculated risks, in terms of what they try to do and how they go about doing it. Their leaders are likely to be visionaries, who are motivated more by what they believe are good ideas, rather than by external pressure or by what others are doing. They believe in order to be first, you must lead, not follow. A specific example in AIS is American Airline's SABRE system. The development of that system was a result of a leadership initiative that opposed conformance to the existing system for airline reservations. American Airline's leadership in the development of the SABRE system offered a unique competitive advantage to the organization through the creation of a proprietary network that connected travel agents to American's central reservation database. However, the three social forces and the conditions that promote them work against being different. They tend to promote conformity to both ends and means and, hence, followership. As a result, it becomes more difficult for organizations to be different; to do what American Airlines did to differentiate themselves from their competitors. Without an understanding of these forces, organizations may get trapped into a followership status regarding AIS choice resulting in a competitive disadvantage.

Conclusion

The major conclusion from this analysis is that both symbolic/institutional forces imposed by internal and external organizational constituents as well as technical/rational system needs represent important influences on AIS choice. The requirement that AIS choice should satisfy

both technical and organizational validity long has been recognized in the operations research/management science implementation literature (Markus and Robey 1983; Schultz and Slevin 1975). The analysis in the present paper sheds more light on the meaning of organizational or social validity and identifies specific forces that can influence a system's fit to such requirements.

Implications for Future Research

Social forces have been identified in the analysis to be particularly influential in the selection and choice of AISs in industries that are subject to government regulatory reporting and in cases where external dependencies are significant, where performance standards are not well specified, and where frequent contact and communication occur prior to and during the selection and choice of AISs. All in all, the emphasis has been on the analysis of "supply- or technology-push" forces, rather than on "demand- or need-pull" forces. "Need-pull" forces were the ones traditionally emphasized for technical change (e.g., Utterback 1971) and were well represented by the system resource and goal models. These models exclude social or institutional factors that could provide a broader context for explaining AIS choice. Institutional forces do not work in opposition to rational calculative processes that emphasize technical requirements, resources, or information flows, but complement those processes by providing a broader context within which they can be evaluated and explained. Future research can extend the analysis presented in this paper by formally specifying relationships conditioning the effect of technical/rational factors upon AIS choice. Adoption of this framework would enable accounting systems researchers to offer a broader understanding of the whole AIS choice process and of the factors that influence AIS choices in organizational contexts. Findings from that type of future research should illuminate the effects of the social-institutional environment on organizational decisions and on the potential implications of those decisions in defining the structure and meaning of the social context. As Feldman and

March (1981) noted, the symbolic needs of the organization cannot be studied in isolation of the "signaling" opportunities made available by the development and use of information systems. A multiplicity of research approaches in this area should provide sound evidence against which these presumptions can be tested. □□

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