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Change Agentry — the Next IS Frontier*

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Abstract

We wrote this essay to stimulate IS specialists’ efforts to become more effective — and more credible — agents of organizational change. The essay describes what we believe to be a view of the IS specialists’ change-agent role that is very commonly held by IS specialists. We believe that this role, while well-intentioned and supported by structural conditions in IS work, often has negative consequences for organizations and for the credibility of IS specialists. Further, it does not fit the emerging structural conditions of IS. We describe two alternative models of what it means to be a change agent, their potential consequences, and the structural conditions that support or inhibit behavior in that role. We conclude that increased behavioral flexibility of IS specialists — the ability to switch roles in different circumstances — would improve organizational effectiveness and IS specialist credibility. Finally, we discuss the implications of our analysis for research, teaching, and practice.

Keywords: Change management, change agent, IS function, IS management, IS implementation, IS education, future IS professionals

ISRL Categories: AF10, DB05, EH, EL, IA01, FD, ID03

Introduction

We believe that IS specialists generally need to become better agents of organizational change than most are today (Benjamin and Levinson 1993). In our research and consulting, we have seen many exceptional change agents among the IS ranks. But we have also seen many whose approach to introducing new technology into organizations is ineffective or counterproductive.

Why do IS specialists need to become better agents of organizational change? There are three primary reasons. First, new IT is an organizational intervention (i.e., an attempt to create change). A vast body of research literature shows that how IT is “implemented” (e.g., how it is specified, designed, or selected; how it is described or “sold;” how people, facilities, structures, and processes are prepared to accommodate the change) is a major factor in the results organizations achieve from new ITs. Yet, despite our vast knowledge of this dynamic, many organizations continue to fail in IT implementations (Majchrzak 1992; Markus and Keil 1994), often at great cost in money, organizational competitiveness, and individual careers.

This same literature also shows that IS specialists alone cannot achieve IT implementa-
tion success. Executives and managers must do their part, and individual "users" must do theirs. Why, then, should IS specialists improve their change management skills? Shouldn’t we just continue to exhort senior business executives to give IT projects better "top management support"? The answer is that we do continue to urge business leaders do their part in IT change management. However, when they do not, or when they are not as effective as they should be, IS specialists who are effective change managers can often tip the odds of IT projects toward success, whereas those who are technically skilled, but ineffective as change agents, cannot.

Second, IS specialists need to become better organizational change agents because change agency will most likely become the largest and most important part of intraorganizational IS work in the future. Twenty years ago, almost all IS work was done "in-house," meaning that IS specialists were employees of the organizations that consumed their products and services. This was the case, in large part, because the software and professional services sectors of the computer world were immature. Today, however, these sectors are strong and growing. Organizations are increasingly outsourcing application development, computer operations, even IS management. Although precise statistics are unavailable, most observers believe that a significant portion of all IS work is now performed by external consultants and vendors.

Transaction cost considerations suggest that IS work that does not require organizational loyalty and/or specialized organizational knowledge and skill will migrate to the marketplace. In essence, this theory predicts that all purely technical IS work will cease to be performed in-house. Conversely, any IS work where organizational loyalty and insider knowledge of the organization — personalities, business process, culture, and politics — are essential or advantageous, will be less vulnerable to outsourcing. IT implementation (introduction, not "coding") and change management are likely to remain in-house, because this work involves organization-specific knowledge and concern for the best interests of the organization and its members. Further, IT implementation and change management issues are unlikely to diminish in importance or difficulty with time, even if all IS technical work is outsourced and all IT challenges are tamed. And, if change management does indeed become the job of IS specialists, then IS specialists need to be able to do this job extremely well — better than most of them are doing it today.

Third, becoming better change agents is bound to improve IS specialists' organizational credibility. Many people think IS specialists have low credibility. CIO, the acronym for chief information officer, is often said to stand for "career is over." Outsourcing researchers acknowledge that low credibility of in-house IS specialists is often a factor in the decision to turn the job over to an external specialist. Paul Strassmann, former CIO for the Department of Defense and noted IS consultant, says:

> It just happens that the IT community has consistently ranked in surveys as one of the least admired corporate functions. IT therefore becomes an attractive target when there is a quota on how many bodies must leave (Strassmann 1995a).

We believe there is a strong mutual relationship between credibility and change management skill. First, effective change management requires credibility. If managers do not trust IS specialists, they will not let themselves be influenced by their technical competence. On the other hand, effective change management behavior builds credibility. When managers see IS specialists behaving in effective ways, they are more likely to trust them and adopt their proposals.

In our experience, ineffective IS specialists often blame their ineffectiveness on their low credibility: "If only the CEO would tell everyone to listen to us, we could make a difference." By contrast, effective IS specialists accept the negative stereotypes and quietly work to prove them wrong. By refusing to act within the "box" created by formal structures and policies and informal expectations about how IS is supposed to do its job, these effective change agents transform not only their interpersonal
relationships with their clients, but also the behavior of managers and users in IT projects and decision making. Organizational success and improved IS credibility result.

These are our reasons for believing that IS specialists need to become better change agents. So, what does this really mean? To answer this question, we reread the IS and change management literatures, we interviewed practicing IS specialists, we conducted new case studies, and reanalyzed old ones. We learned that there are two basic issues at work.

First, there is substantial disagreement in both theory and practice about what it means to be "an agent of organizational change." In fact, we found three completely different definitions of what change agents do and why. The first definition reflects the views of many practicing IS specialists, according to our own and others' research. The second model can be identified in various organizational development (OD) texts, such as Schwarz (1994) and Cummings and Huse (1989). The third model comes from the innovation, management, and change politics literatures (e.g., Kanter, et al. 1992; Rogers 1995).

This very lack of consensus about what it means to be a change agent is an impediment to progress because it creates misunderstandings when talked about. Further, given their definitions of what it means to be a change agent, some IS specialists may legitimately see no need for change in their behavior.

Second, we learned that the different change agent roles grow out of, and are maintained by, various structural conditions (cf. Orlikowski 1992). Structural conditions are social and economic arrangements, e.g., reporting relationships and policies, that influence the processes of IS work (e.g., which activities are done by in-house specialists and which by vendors and/or clients) and the outcomes of IS work (e.g., how successful IT projects are and how clients view specialists' credibility and effectiveness). An example is the organizational policy, common 20 years ago but virtually extinct today, requiring all information systems to be built in-house rather than by outside vendors (Friedman 1989).

Structural conditions help us understand why the IS role is what it is today, and they help us understand why the IS role is difficult (though not impossible) to change. They also tell us where and how we need to intervene to make a difference — for instance, by changing official organizational policies that define the IS function's role and by education and training programs.

This article presents three different models of change agentry. The models should be understood as "ideal types," rather than as empirical categories. Thus, any particular individual or group might exhibit some mix of the models, either at the same time or in different situations. Nevertheless, we believe these models broadly characterize dominant beliefs in each of the three different practice domains explored. In all three models, IS change agentry is understood as a basic orientation toward the goals and means of IS work that shapes what the practitioner does and how she or he does it. Change agentry is not something a specialist might do instead of doing IS work. Rather, it is part and parcel of IS work, as it is performed by specialists who are employees of the organizations for which the work is done. Thus, we see change agentry skill as essential to the successful performance of in-house IS work.

For each ideal type, the general role orientation, the probable consequences in terms of client satisfaction and project success, and structural conditions that enable or hinder IS specialists adopting it are described (see Table 1 for a summary). The paper concludes with a discussion of the implications of our analysis for IS research, education, and practice.

The Traditional IS Change-Agent Model

In our interviews, IS specialists frequently referred to themselves as change agents. "I've
### Table 1. Comparison of Three Models of Change Agentry

<table>
<thead>
<tr>
<th>Role Orientation (the change agent’s attitudes, beliefs, behaviors)</th>
<th>Traditional IS Model</th>
<th>Facilitator Model</th>
<th>Advocate Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technology causes change</strong></td>
<td>Clients make change using technology alone does not cause change</td>
<td>Facilitator promotes change by helping increase clients’ capacity for change</td>
<td>People, including the change advocates, make change</td>
</tr>
<tr>
<td><strong>IS specialist has no change responsibilities beyond building technology</strong></td>
<td>Facilitator avoids exerting expert or other power over clients</td>
<td>Facilitator serves interests of all clients, not just funders and direct participants</td>
<td>Advocate increases targets’ awareness of the need for change</td>
</tr>
<tr>
<td><strong>Specialist is an agent of change by serving the objectives of others; specialist is the manager’s pair-of-hands</strong></td>
<td>Facilitator values clients’ informed choice about conditions of facilitator’s work; works to reduce client dependence on facilitator</td>
<td>Advocate champions a particular change direction</td>
<td>Advocate tactics include communication, persuasion, shock, manipulation, power</td>
</tr>
<tr>
<td><strong>Specialist does not hold self responsibility for achieving change or improvements in organizational performance</strong></td>
<td>Facilitator does not hold self responsibility for change or improvements in organizational performance; clients are responsible for change or improvements in organizational performance</td>
<td>Advocate shares credit or avoids taking full credit for outcomes</td>
<td>Advocate and change targets are responsible for change and performance improvements</td>
</tr>
<tr>
<td><strong>Widespread system failures for social reasons</strong></td>
<td>Greater attention to building user capacity might increase project success and IS credibility</td>
<td>Role fits a need in situations where IS specialists have or could have better ideas than clients about effective business uses of technology</td>
<td>Role might increase IS credibility; role emphasizes communication, which is a key factor in credibility</td>
</tr>
<tr>
<td><strong>Key systems success factors defined as outside IS role and influence</strong></td>
<td>Emphasis on client self-sufficiency would reduce client resentment and increase IS credibility</td>
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</tr>
<tr>
<td><strong>Technical/organizational change blocked by IS</strong></td>
<td>Many new ITs offer more scope to IS specialists who act as facilitators than to those who act as experts/builders</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low IS credibility</strong></td>
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<tr>
<td><strong>IS resistance to role change</strong></td>
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<tr>
<td><strong>IS is sole-source provider of services</strong></td>
<td>Facilitator is not a client group member</td>
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<tr>
<td><strong>Clients have limited technical and sourcing options</strong></td>
<td>Facilitator’s function lies outside the hierarchical chain-of-command</td>
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<tr>
<td><strong>IS holds “staff” role — with delegated authority over certain processes, decisions, behaviors</strong></td>
<td>Facilitator’s function is not formally responsible for business results, though some functional responsibility is inevitable</td>
<td></td>
<td></td>
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<tr>
<td><strong>IS builds systems</strong></td>
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<td></td>
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<tr>
<td><strong>IS Structural Conditions Compatible With Role Orientation</strong></td>
<td><strong>IS Structural Conditions Incompatible With Role Orientation</strong></td>
<td><strong>IS Structural Conditions Incompatible With Role Orientation</strong></td>
<td><strong>IS Structural Conditions Incompatible With Role Orientation</strong></td>
</tr>
<tr>
<td><strong>Decentralized IS</strong></td>
<td><strong>Valueable expertise in technical or business subject matters</strong></td>
<td><strong>Absence of managerial authority over target</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Outsourced IS</strong></td>
<td><strong>Formal responsibility for business or technical results</strong></td>
<td><strong>Staff control over target’s processes, decisions, behaviors</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Purchased systems</strong></td>
<td><strong>Staff control over clients’ processes, decisions, behaviors</strong></td>
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<tr>
<td><strong>Diversity of client technology and sourcing options</strong></td>
<td><strong>Concerns about locus of employment</strong></td>
<td></td>
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<tr>
<td><strong>Strong IS budget pressure</strong></td>
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<tr>
<td><strong>New technologies that demand different “implementation” activities</strong></td>
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always thought of myself as an agent of change" is a fairly typical statement. But, when we probed, we found that many IS specialists view information technology as the real cause of change. Despite widespread academic debates on technological determinism — the ability of technology (versus people) to cause change — the belief that technology alone can make a big difference is widely held, both in academic and practical circles. For instance, Silver (1990) defines as "change agents" computer systems with particular characteristics. IS specialists, it seems, consider themselves change agents because they identify psychologically with the technology they create. Because technology can be relied on to make change, IS specialists don't have to "do" anything to make change other than build systems or install technology (McWhinney 1992).

An additional premise of the traditional IS point of view is that the specific goals of technical change should be set by others, usually organizational managers. This allows the specialist to assign responsibility for any unintended or negative consequences of IT to the people who set the goals. (Managers, however, often blame IS specialists for creating or failing to avert unwanted IT impacts.)

We summarize the role orientation of the IS specialist as follows:

IT changes people and organizations by enabling them to do things they couldn't previously do and by constraining them to work in different ways than they worked in the past. I am an agent of change because I design and build the systems that enable and constrain people and organizations. My role is that of designing and building systems that, when they are used by people and organizations, will produce desirable organizational change. I am also an agent of change, because I do not set the goals for organizational change. I do not determine what is a desirable organizational outcome. I act as an agent for the managers of the organization by building systems that, when used, will achieve their objectives. I am not responsible for setting the objectives or for achieving them, but only for providing the technological means by which managers and systems users can achieve their objectives. I am an expert in technological matters, not in business matters or in the behavioral issues involving the use of systems.

Consequences

It must be emphasized that an occupational role is not the sole creation of the occupation's members. It is a joint product of what specialists do and what is done to them by their clients and others. But obviously, these two things are related. If people feel themselves to have been treated poorly, they often respond in kind.

It is undeniable that many organizations have achieved great results from IT and that much of the success of these undertakings has been due to the efforts of IS specialists. At the same time, we in the IS field owe it to ourselves to analyze dispassionately whether the traditional IS role (as a joint product of IS and clients) has enabled organizations to achieve the maximum possible benefits from their investments in IT. If we have in any way contributed to a shortfall in total benefits, we need to ask if and how we should change. In this context, to identify negative consequences that result from the traditional IS role is not to condemn the role occupants, but to build a case for changing the IS role.

Computer historian Andrew Friedman (1989) argues persuasively that in managing their relationships with users over time in various ways (with the obvious collaboration of users and managers), IS specialists have not effectively coped with the human and organizational issues in IT implementation. Building on his work, we see three negative consequences that can be traced, at least in part, to the traditional IS role.

Many IT Failures

First, IT failures attributable primarily to "implementation" problems rather than technical problems abound. Decades of implementation
research have confirmed a variety of social success factors for systems (cf. Walton 1989), but most of them have been defined as outside the traditional IS role (Markus and Keil 1994). For instance, despite the large and growing literature on end-user training and learning (Compeau, et al. 1995), it is our observation that most IS units consider training to be a relatively minor part of their mission (in terms of resources allocated to it). Many IS departments outsource responsibility for systems training to human resources specialists and external vendors. Whatever the economic and practical rationales for these decisions, we believe they reflect deeply-held beliefs (probably shared by managers and human resource specialists, among others) about what is really IS work. By-and-large, those who subscribe to the traditional IS view believe that building systems is IS work, while training users is not.

An excellent example of crucial systems success factors defined as outside the IS job can be seen in a study of groupware implementation. Organizational culture and reward mechanisms inhibited consultants from sharing information in Lotus Notes databases, but IS mentors maintained a deliberate hands-off policy except for technical matters:

We're [the IS group is] a common carrier — we make no guarantees about data quality. As for the problem of obsolescence, if they [the users] don't know it by now it is not my job to tell them (Orlikowski and Gash 1994).

IS Inhibiting Change

Another consequence of the traditional IS change agentry role is that it can ironically inhibit desirable organizational change rather than promote it (Beath 1991; Markus and Robey 1995; Nance 1995). As technical experts, IS specialists are often stereotyped as being in love with technical change. And many of the IS specialists we spoke to described their understandable pleasure in learning new technologies. But this interest does not always mean that new technologies are made available to clients and users, even when the latter want them.

IS specialists know that clients always complain about something. A common complaint is that the technical environment is changing too fast for them to keep up. But an equally common complaint is exactly the opposite: that IS isn't moving as fast as clients want in adopting new technologies — for instance, PCS in the 80s, client-server in the 90s. And IS specialists often have very good organizational reasons for moving slow with innovations, such as the benefits that derive from waiting until standards emerge and the desire not to disrupt users' problem-free operating environments.

But IS specialists also have personal/group interests in addition to organizational ones. As is true of all other organizational members, these group and organizational interests occasionally conflict, and IS specialists occasionally place their own goals ahead of organizational ones. Some things they do knowingly. For instance, one specialist told us that he often lied to his clients about the compatibility of technologies they wanted to purchase to limit the range of systems he had to support. But other times, we suspect that IS specialists are unaware of real differences of interests among themselves, clients, and users. They believe that what is in their interests is in the organizations' interests, when it is not. For instance, one CIO told us that in his experience most IS managers believe that anything that reduces the IS operating budget is in the interests of the organization. He explained that this is not true. There are numerous ways to reduce the IS budget that shift costs onto user departments and many things that would improve an organization's total performance picture that would require the IS function to change the way it does business. But these changes do not happen because the organization measures only IS functional cost, not total business process cost.

We believe that it is normal and rational behavior for IS specialists to act in line with their own interests and incentives. We also think that doing so is occasionally not in the best interests of the organization in which they work. The most effective practitioners in any occupational group, in our view, are aware of ethical dilemmas posed by conflicts of interest, can discuss them openly as questions of val-

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ues and ethics (not just as questions of technology and economics), and sometimes, even often, find a win-win solution or subordinate their own needs. By contrast, we found that many IS specialists do not confront these issues directly, relying on organizational standards, persuasion, and manipulation of technical information to get their own way.

The symptoms are clients complaining about IS specialists blocking needed technical change, while IS specialists are desiring higher budgets to study new technologies. The root cause, in our view, is differences in interests about technical change. Even though technical change is ostensibly what IS specialists are all about, technical change creates problems and vulnerabilities as well as career development for them. Our interpretation is that many IS specialists fear that new technologies in the hands of users are a threat to their professional credibility and self-esteem. New technology makes them feel vulnerable: Unless they know everything about it, they will look technically incompetent when users inevitably experience problems. Further, even when a new technology's problems are known and tractable, the shakedown period increases their workload and working hours. The solution, in our view, is enlargement of IS specialists' roles to encompass change management skill in addition to technical expertise.

Reduced IS Credibility

Perhaps the major consequence of the traditional IS change management role is credibility erosion. We have already cited Strassenmann's (1995a) remark about the IT community as one of the least admired corporate functions. He said this in context of a discussion of IT outsourcing. He found that most of the companies that outsourced IT were poor financial performers — not the result he expected in light of the benefits claimed by IT outsourcing advocates.

In addition to poor organizational financial performance, the poor technical performance of IS departments explains some outsourcing decisions (Earl and Feeny 1994; Lacity and Hirschheim 1993). But we have seen numerous instances where IS credibility is low even when technical performance is excellent. Low credibility, despite technical excellence, can be traced to the poor interpersonal relationships that arise between IS specialists and their clients when specialists define their role in the traditional, technology-centered way. We found support for this argument in academic research and the writings of professional consultants.

Several loosely connected streams of research on innovation, impression management, and personal perception suggest that credibility is imperfectly related to technical competence and job skill. Change agents may have low credibility because clients perceive them to be "heterophilous" (different in background, beliefs systems, interests) (Rogers 1995) or to lack "value congruence" (Sitkin and Roth 1993). Conversely, trust can often be built and maintained through strategies that focus on interpersonal relationships between IS specialists and their clients after some threshold of technical performance has been achieved (Bashein 1994; Bashein and Markus 1995).

Similarly, a noted consultant argues that technical specialists can play three different roles in the course of their work for clients: the "expert" role, the "pair-of-hands" role, and the "collaborator" role (Block 1981). In Block's typology, the essential difference is which party takes the active role and which party takes the inactive role in defining the problem and specifying its solution. In the expert role, the specialist calls the shots, and the client acquiesces. In the pair-of-hands role, the client is in charge, and the specialist does whatever the client tells him or her to do. The collaborator role requires client and specialist to diagnose the problem jointly and to agree on a course for its solution. Although there are times when specialists are required to play the expert and pair-of-hands roles, Block explains that the collaborator role often yields the best results by producing a valid understanding of the problem and greater client willingness to implement the solution.

The other two roles have some advantages from the perspective of the specialist. But
these advantages often exact a high price in terms of project success and specialist credibility. Consider the "expert" role. Experts often have high status, and they feel good when their expertise is used. However, people may distrust and withhold data from those who set themselves up as experts, leading to incorrect diagnoses and solutions. Further, people may lack commitment to implementing solutions proposed by experts. And they may become dependent on experts, which in turn generates resentment and resistance. Dependent clients may fail to acquire routine and simple skills for themselves, thus preventing experts from pursuing opportunities for skill enhancement or promotions. In short, the expert role can reduce specialists' credibility and produce reactions that thwart project success, even when the specialist has great technical skills and professional qualifications. Similarly, Block shows that the pair-of-hands role does not exempt the specialist from client blame when the solution the client wants fails to work.

IS specialists can often be observed to adopt the expert and the pair-of-hands roles in IS development and reengineering projects (Markus and Robey 1995). The conclusion is that the role behavior of IS specialists is a probable contributor to the high failure rates of projects involving IT. Lawrence (1969) makes a similar point in his classic work: resistance is often people's reaction to the change agents, not necessarily to the change itself.

This essay focuses on the IS specialist's role in IT-enabled organizational change. Thus, our analysis differs somewhat from Block's, which focuses particularly on who (specialist, client, or both collaboratively) should specify what the change should be. Nevertheless, we agree with Block that the roles played by IT specialists while they do their technical work can profoundly affect the quality of the solution, client satisfaction with the solution and willingness to do what it takes to make it a success, and client satisfaction with, and belief in, the competence of the specialist (i.e., the specialists' credibility).

### Structural conditions

The traditional IS worldview is highly consistent with the ways in which IS work has historically been structured and managed and is still in many organizations. In the past, the work of internal IS specialists was shaped by three factors (Friedman 1989):

- Policies that established internal IS specialists as sole providers of computer services
- Technologies and structures that limited the number of options available to clients and users
- Lack of external competition, which protected IS departments from budget cuts

Further, IS specialists typically worked in large centralized IS departments. While many IS managers tend to think of themselves as "line" managers, because they have huge budgets and run large production facilities, the fact remains that most IS units do not have responsibility for key organizational results (e.g., profitability). Instead, they are measured and rewarded for functional unit goals, such as "delivering usable systems on time, on budget," in the words of the head of a major academic IS department. "Real" line managers stereotype them as "staff" — a term with the highly pejorative connotations of "out of touch with our needs" and "telling us to do things that don't make business sense."

These negative perceptions (that is, poor IS credibility) do have a basis in structural conditions. Since IS units were required to support many different organizational groups, they could not be expected to know all their clients' needs well and to serve all their individuals' interests equally well. And the functional incentives of IS departments are known to promote goal displacement, such as the cultivation of technical expertise for its own sake and the substitution of functional unit goals for the enterprise goal of performance improvement.
In short, structural conditions make a good explanation for how the IS role evolved to its present form over time. They also make a good prediction of what the IS role is likely to be in the future, under two (unlikely) conditions: (1) that structural conditions stay the same, and (2) that IS specialists do not actively try to change their role. Further, structural conditions tell us a lot about why IS specialists might not want to try to change their role: structural conditions represent the obstacles they face in trying to do so. A former CIO of Dupont recounted how he spent the first five years of his tenure achieving a reliable operation, and the next five unsuccessfully trying to unleash an entrepreneurial, “help the business,” culture. The seeds of his failure lay in his own past success.

On the other hand, we believe there is a very good case for voluntary IS role change. As presented above, the case is that (leaving aside all past blame and all past success) the traditional IS has some consequences that IS specialists perceive as negative. An example is “Career is over.”

Further, the structural conditions that shaped the IS role in the past are changing in ways that demand a proactive change in the IS role. We have already mentioned the trend toward outsourcing. In addition, many organizations that retain IS work in-house have radically decentralized the IS function, giving responsibility for applications development and other IT-related decisions to business unit managers. Finally, many new information technologies — from groupware to the World Wide Web — are acquired as packages, not developed in-house. While they may require customization and content, they don’t require the same sorts of development activities that IS specialists have traditionally performed for transaction processing and decision support systems (Farwell, et al. 1992).

Where the structural conditions of IS work have changed — for example, where IS is decentralized or outsourced and where systems are bought, not built — the old IS world-view seems distinctly dated. So, when we studied a company that had recently decentralized its IS personnel to the business units, both the CEO and the IS manager told us in no uncertain terms and in almost exactly the same words: “There are no systems projects here, only business projects.” We conclude that the IS role must change, despite the structural conditions that make it difficult to do so.

In summary, the traditional IS view of change agentry assumes that technology does all the work of organizational change and that “change agents” only need to change the technology (slowly). This model rationalizes a narrow focus on building technology, rather than a broader focus on achieving business results. The next section describes an alternative view of the change agent, coming from the literature and practice of organizational development.

The Facilitator Model

The OD literature (e.g., Cummings and Huse 1989; Schwarz 1994) depicts the change agent’s role something like this:

Organizational change is brought about by people (not technology). In order to make real and lasting change, people in organizations need to be able to make informed choices on the basis of valid information (about others’ views, not just about the business issues), and they need to accept responsibility for their own behavior, including the success of the actions they take to create change. I am an agent of change because I help people create the conditions of informed choice, valid information, and personal responsibility. I have an obligation to increase people’s capacity to create these conditions so that they do not become or remain dependent on my helping them to do so. I have expertise in various subject matters (such as group dynamics and the effects of rewards on human motivation), but my primary role is one of facilitating the group and organizational processes by which people work on content (the particular business issues facing a group, such as the need for an information system). When I act as a process facilitator, I must avoid acting as a content expert and should not express my views about the specific technical or business issues at hand. In performing my role, it is...
often, maybe always, the case that different parties have different goals, objectives, and interests in change. Therefore, I must always serve the interests of the "total client system" (e.g., the organization and its external stakeholders), even when this is in conflict with the interests of the particular managers who "hired" me as a consultant or with my own personal and professional interests.

This facilitator model of change agentry has several important points of difference from the traditional IS model. The first is belief about what causes change. OD practitioners believe that it is people (clients) who create change, not themselves as change agents or their change "technology" (e.g., OD interventions). Therefore, OD practitioners intervene in (facilitate) group and organizational processes in ways intended to increase the capacity and skills of the clients to create change. (This is analogous to an IS department defining its role as one of teaching clients and users how to select and build systems for themselves, rather than doing systems building and selection for them.) Further, OD practitioners believe that this increased capacity should extend to the domain of OD work, so that the professional services of OD practitioners are not permanently required by a specific client. OD practitioners do, however, agree with traditional IS specialists in not accepting personal responsibility for whether change actually happens or performance improvement occurs. "So long as they act effectively, facilitators are not responsible for the group's ineffective behavior or its consequences" (Schwarz 1994). The client group or organization itself is believed responsible for results (Argyris 1990).

Second, the facilitator model of change agentry differs from the traditional IS model in how it handles technical or business expertise. OD practitioners view themselves as experts in "process" (in the sense of behavioral or group process, not in the sense of "business" process), not as experts in the "content" of the technical or business issue the client is dealing with. OD practitioners are repeatedly cautioned not to provide factual information, opinions, or recommendations that are unrelated to how the group tackles the problem (Schwarz 1994). Making the analogy to the IS situation, the facilitator (in our change agentry sense) of a JAD session would feel free to describe the next stages of the JAD process or the evidence of an interpersonal conflict in the team, but not to discuss the relative merits of client-server versus mainframe computing or to recommend which software to buy.

A third key difference between the facilitator model and the traditional IS model of change agentry concerns OD practitioners' explicit awareness of their power and the dangers to the client of their using it. (See Markus and Bjørn-Andersen 1987, for discussion of similar issues in IS.) OD practitioners know that their personal and professional interests do not always coincide with those of a particular client or the "whole client system" (Schwarz 1994). And they consider it unethical to use their power in ways that undermine clients' abilities to be informed and responsible. This is why they believe that acting as a content expert (e.g., giving technical advice) is incompatible with the facilitator role: It may exert undue influence on the client's choice.

There is increasing IS interest in, and research on, the facilitation of technology-mediated group meetings and decisions. This is important work, but the parallels between it and our facilitation model of change agentry are imperfect for two reasons: First, our concern is with the facilitation of organizational change, not the facilitation of group meetings per se (although much organizational change is, of course, planned in meetings). Second, there is a technical component of GSS facilitation, e.g., running the software, that is irrelevant to our concerns here.

Consequences

Why might IS specialists benefit from moving in the direction of the facilitator model of the change agent role? First, the OD approach to change agentry reduces some of the known points of friction in IS-client relations. For example, clients frequently complain about the imposition and enforcement of IT standards and about slow deployment of new ITs. In the
traditional role, IS specialists tend to focus on why such policies are technically correct. This enrages their clients, who see it as self-serving behavior. By adopting more of a facilitator role, IS specialists would do things differently (leaving aside potential future changes in the structures of standards and policy setting). First, the IS specialists would focus on providing full and valid information about the alternatives. This means both pros and cons for each alternative, indicating who benefits and who pays. Second, the IS specialists would disclose their own group interests while encouraging open discussion of differences.

This requires a bit more explanation. One common OD intervention in negotiation situations involves helping people to distinguish between "positions" (or proposed solutions) and "interests" (or criteria by which a party judges a solution). When people become emotionally attached to their own positions, they often fail to see that another solution satisfies their interests as well or better, while at the same time meeting others' needs. It is very much easier to satisfy a client who says, "I want to minimize users' and my relearning costs" than it is for the one who says, "I want brand X." Similarly, it's much easier for clients to accommodate IS specialists who say, "We're afraid that you'll blame us for not meeting budget, schedule, and reliability targets if we go with a client/server architecture where we don't have much experience" than for those who say, "The mainframe solution is better for this type of problem."

A second advantage of IS adopting more of a facilitator role is that it legitimizes IS responsibility for IT education and training for clients and users. As noted earlier, education, training, and other implementation activities are generally viewed as outside the IS role, in part because formal authority for training usually is assigned elsewhere (e.g., Human Resources). Yet, research and theory suggest that these factors have a profound, if not driving, influence on IS project success (Markus and Kell 1994; Soh and Markus 1995). Therefore, the IS function must take responsibility to ensure that IT training gets done right, regardless of who is officially in charge of training. Here we are making a distinction between what one CIO called "an area of responsibility versus an area of active management." IS specialists may not actively manage (design, deliver, contract for) IT training. Yet, IS units that take responsibility for this critical success factor (by facilitating its effective accomplishment) are much more successful as organizational change agents than those that do not. To do this job effectively, they need to know almost as much about technical learning, training, and communication as they do about IT.

The facilitator model of change agentry also places a value on making clients self-sufficient or independent of practitioner interventions. Dependence breeds resentment, and resentment destroys working relationships and professional credibility. We believe that clients' perceived dependence on IS specialists (whether it reflects a real lack of client skill or is an artifact of organizational IT sourcing policies) is a major factor in the poor credibility of many IS departments and CIOs today. Improved client self-sufficiency might turn this situation around.

A final advantage in movement toward the facilitator model is that many new information technologies provide greater opportunities to IS specialists who act as facilitators than to IS specialists who act as systems builders and technical experts. Interviews with IS specialists suggest that many new information technologies are not viewed as "part of IS." Examples include: digital telephony and voice mail, videoconferencing, the World Wide Web, etc. Probing reveals that these technologies are often considered as not part of IS because they are "boxes." That is, they provide minimal opportunities for building and development. Yet, many of these pre-programmed new technologies, such as group support systems, require considerable change facilitation skills for their effective deployment and use (in addition to software use facilitation). IS specialists who facilitate their clients' ability to make free, informed, and responsible decisions about IT adoption and use provide a valuable service, even if this work does not display IS technical expertise.
Structural conditions

OD practitioners recognize that certain structural conditions are necessary or at least useful for maintaining their role. They believe that, to be effective, they cannot be members (neither managers nor ordinary members) of the groups they facilitate. Of course, managers and members can successfully practice many facilitation techniques, but membership in the client system prevents them from acting formally as a neutral third-party. In the OD field, much attention is paid to the difficulties of being an internal practitioner. Internal practitioners strive to deal with these difficulties by removing themselves as far as possible from the formal chain-of-command. Ideally, they are organizationally separate from the human resource function and report directly to the chairman or CEO.

These structural conditions can be observed in the methodologies developed for systems development and reengineering projects by people from the OD tradition (c.f., Bancroft 1992; Mumford and Weir 1979; Walton 1989). OD-oriented methodologies differ considerably from traditional IS SDLC manuals or reengineering bibles. One striking difference is that IS specialists are never recommended to facilitate the OD-designed processes (although they may in fact do so (cf. Davidson 1993)). As experts, IS specialists are viewed as ineligible for the facilitator role and consigned to ordinary group membership. By contrast, in the "user-led design" processes designed by IS specialists, IS specialists often lead the user teams. When they do, they often depart from the prescribed facilitation role in numerous ways (Davidson 1993). We think this divergence may result in part from the conflict between the IS specialists' role as technical experts and the demands of neutral, third-party facilitation.

In general, the structural conditions that support the facilitator model of change agentry — avoidance of expertise displays, non-member status, lack of line or staff authority over people or performance, etc. — are quite different from the structural conditions under which most internal IS specialists operate. In particular, the following structural conditions present in much IS work create potentially serious obstacles to IS adoption of the facilitator role:

- **Technical expertise.** IS specialists have valuable technical expertise. The facilitator role does not give them a way to use it.

- **Authority for organizational control.** Many IS departments have some organizationally delegated or mandated ability to control the behavior of their clients or to influence clients' decisions on technology issues, such as standards. As setters and enforcers of these rules and policies, IS specialists would be sending mixed messages if they tried, as OD practitioners try, to increase their clients' ability to make their own informed decisions.

- **Authority for technical outcomes.** IS specialists are generally measured, rewarded, and punished for the results they achieve on IS departmental or project budgets, project schedules, and the maintenance of reliable operations. According to the OD worldview, these responsibilities may prevent the practitioner from acting in the best interests of the client system, and thus may inhibit desired change. For instance, IS specialists may occasionally make decisions with the effect of reducing IS departmental budget expenses, while increasing the costs borne by users.

- **Concerns about employment opportunities.** The facilitator model of change agentry places a high value on increasing client self-sufficiency, reducing client dependence, and practitioners working themselves out of a job. If diligently practiced, this value would work to promote downsizing and/or outsourcing of IS departments. These potential outcomes conflict with the personal interests many internal IS specialists have in their continuity of employment with a particular company.

In summary, the facilitator model of change agentry has the potential to reduce friction between IS specialists, clients, and users,
thereby enabling better systems and IT management and enhanced IS credibility. These advantages make it worthwhile to consider how to move toward the facilitator model, despite obvious structural barriers. A third model of change agentry, drawn from the innovation and business change literature, also has some interesting potential advantages in the context of IS work.

The Advocate Model

A third model of the change agent role can be seen in the writings of innovation theorists, some line managers and consultants, academics from the organizational change management school, and change champion researchers (cf. Beath 1991; Kanter, et al. 1992; Rogers 1995; Semler 1993). The distinguishing feature of this model is that change advocates work to influence people's behavior in particular directions that the change agents view as desirable, whether or not the change "targets" themselves hold similar views. Thus, the advocate model differs sharply both from the traditional IS model, in which the change agent attempts to satisfy users' goals, and from the facilitator model, in which the change agent attempts to help clients realize their goals. By contrast, the advocate attempts to induce change targets — both individuals and groups — to adopt and internalize the change agent's views about what is needed to serve the organization's best interests.

Several recent articles in the trade press provide vivid descriptions of the advocate model. A consultant who has studied organizational change claims that roughly one-third of most companies' middle ranks should be composed of "change leaders." Change leaders are not necessarily the people who would be tapped for top management positions; they're "the funny little fat guys with thick glasses who always get the job done" by operating with more than one leadership style and by doing whatever works (Katzenbach, cited in Sherman 1995). A recent article by a manager in a software development company provides a window into the advocate model that is interesting because of its IS technical content (Allen 1995). Similar descriptions of the advocate model of change agentry can be found in the business autobiography of Ricardo Semler (1993), among others.

The advocate model can be summarized as follows:

I cannot make change alone. Change is made through the actions of many people. But people often don't question the way things are done today. I am an agent of change because I see what needs to be done differently and I try to find a way to change people's minds about the need for change in the way we do things today. I often try to change their minds by creating an exciting vision of the future, talking to people about it, and by modeling desired behaviors. But I may also try to shock them with outrageous actions that bring their heads up. Once they see the need for change and adopt my vision of what to change to, they will make the changes themselves. But I'll probably need to remain steadfast in support of my vision of change over long periods of time before they all catch on. And if my position and resources permit, I may need to stabilize and reinforce the change by replacing certain individuals who retard change and by promoting or otherwise rewarding those whose behavior embodies the desired values.

Like the facilitator model of change agentry, the advocate holds that people, not technology, are the causal factors in change. However, the advocate differs from the facilitator in beliefs about the need for participation in identifying the nature and direction of change. Indeed, the advocate thinks of people more as targets of the advocate's interventions than as clients with purposes of their own. In addition, the advocate is much more flexible than the facilitator about the acceptable means of change. The advocate's approach can be summarized as "whatever works." The advocate does not insist that the targets make an informed choice based on valid information and does not hesitate to use overt persuasion, covert manipulation, symbolic communication, and even the naked exercise of formal power to achieve a desired change (Buchanan and Boddy 1992). The most effective advocates pursue changes that serve the organizations'
best interests, even when their personal or professional interests conflict.

Consequences

Why might IS specialists benefit from moving in the direction of the advocate model of change agentry? The primary advantage of this model is captured in the old “programmer's lament”: “Users don't know what they want, and what they want is not what they need.” One of the real sticking points in the line taking leadership over IS (Rockart 1992) is that many managers remain unaware of how IT can most effectively be deployed in their organizations (although this appears to be changing). So, for example, a CIO of a large, diversified electronics company with 20 years tenure told us that his most successful change strategy was to build small demonstration systems (e.g., client/server prototypes) as vehicles for discussing organizational improvement opportunities with his internal clients. Another sticking point is that many line managers share the traditional IS specialists' belief in the magical power of technology to create organizational change. Thus, IS specialists can add business value by advocating process change and user skill training as key components of IT-enabled organizational performance improvement. While the advocacy of socio-technical change is not the exclusive province of IS specialists (since line executives have an important role here too), there is certainly more room for IS specialists to expand their role in this direction.

Another advantage of the proactive advocate role is its emphasis on communication. In our research and consulting, we have often been struck by the relatively infrequent communications between CIOs and CEOs, between CIOs and the heads of other organizational units, between IS analysts and users, and so forth. We have also heard frequent complaints about the IS function's lack of credibility. We think these two issues are related. One cannot be a successful advocate of major change without many, many interactions and discussions with the change targets. To put it in sports language, change agentry is a contact sport. According to the research literature (Bashein 1994), credibility is often a side-effect of frequent, pleasurable communication. Therefore, it seems quite likely that IS professional credibility would improve substantially if IS specialists treated good communication with clients as central to their role.

Third, the advocate role may fit the issues of IT infrastructure better than either of the other two models. The major challenge of many in-house IS specialists today is to ensure threshold levels of commonality and interoperability to support internal and external communication and future flexibility. In economists’ terms, this is a public goods problem (Markus and Connolly 1990): Because everyone benefits from IT infrastructure, no one wants to pay for it. Therefore, neither rational persuasion based on technical expertise nor a participatory, consensus decision-making approach may result in the optimal organizational result. Most organizations need considerable assistance to negotiate the political shoals of IT infrastructure development (Keen 1991; Davenport, et al. 1992; Strassmann 1995b).

Structural conditions

Various assumptions are made about the structural conditions defining the change advocate's role. Early diffusion of innovation research was largely government funded and focused on change agents who worked for public agencies organizationally independent of the targets (cf. Rogers 1995). Lacking formal managerial authority over targets, such advocates are structurally unable to mandate or enforce the desired change. (They may, however, have potentially valuable resources to dispense, such as funds, equipment, advice, and positive regard.) For the most part, these advocates are limited to tactics that include: communicating frequently with change targets; empathizing with targets; gaining targets' confidence by stressing their similarity with the targets in social station and attitudes; and working through the targets' “opinion leaders.”
A second assumption, more common in the management and change literatures, is that the advocate is a line manager with direct authority over the change targets. In this case, the assumption is that the manager theoretically could mandate and enforce the desired change in behavior. However, effective managerial change advocates know this strategy is not likely to be effective, either because the desired change requires people’s internalized commitment or because the targets may have good reasons to resist the desired change. (For example, the targets may honestly believe that the change is not in their own best interests or the interests of their firm.) Therefore, these advocates try to create change by behavior modeling and changing organizational symbols, and use displays of power primarily to reinforce and stabilize the change rather than to initiate it.

Later research in the technology and innovation management tradition (cf. Dean 1987) has focused on internal change champions who occupy staff positions (sometimes in line departments, cf. Beath 1991) in the organizations where the targets of change are employed. These change agents have some of the same resources that external agents do: access to funds for development, for example, or valuable expertise. And they similarly lack line management authority. Often, however, they have delegated authority from line managers to control certain aspects of their clients’ behavior (Block 1993).

While staff specialists groups often greatly prize their delegated authority, it can seriously undermine their ability to act as effective change agents (Block 1993). From the targets’ point of view, change agents with delegated (versus line) authority to reward and punish targets’ behavior lack credibility and legitimacy to a much greater extent than staff advocates without the power to control them (or than line managers with legitimate authority). Staff specialists with control power are universally viewed as people with a particular ax to grind, with interests unaligned with those of the organizations in which they work.

Many internal IS specialists occupy this unenviable position. They lack direct line authority over users and the managers who fund systems projects. But they often have delegated authority to serve as “guardians of the data resource,” “enforcers of technology standards,” and “approvers of requests for systems, software, and services.” As a result, they may not be able to fill the change advocate role as effectively as external change agents or as staff members (like OD practitioners) who lack or decline to exercise organizational control.

This structural position translates into enormous difficulties when line managers abdicate their essential roles as change advocates and champions in IT infrastructure projects and business process redesign projects. Almost all projects of this sort are believed to require senior executives to initiate and support the change effort (Hammer and Stanton 1995). Nevertheless, they often cop out of this role. When they do so, CIOs and IS managers may try to fill the gap. While there is undoubtedly much scope for IS specialists as change advocates, many IS advocates in these big projects are undone by their low credibility (due to their delegated control authority) coupled with their peers’ perceptions that senior executives will not back them up. When such projects fail, as they almost invariably do, IS specialists may also be blamed for failing to step into the breach left by abdicating executives.

Implications

In sorting out the implications of our analysis, we note that our models apply at two levels: the in-house IS function as a whole and the individual IS specialist (e.g., the CIO or a business analyst). We conclude that, for the in-house function as a whole, the traditional IS model is rapidly becoming unviable. (Davenport, et al. 1992, have similarly concluded that “technocracy” is the least effective model of information management.) Our reasons are several: First, the structural conditions that originally shaped the traditional IS
role are changing in directions that undercut its effectiveness. Second, the traditional role undermines the credibility of IS specialists. Third, high credibility is needed for in-house IS specialists to contribute to positive organizational change.

On the other hand, neither alternative role clearly dominates. The facilitator role appears to be most useful with respect to black box technologies that don’t need user-organization programming (e.g., personal digital assistants and integrated enterprise packages) and for some process reengineering projects; the advocate role appears to be most needed for IT infrastructure and possibly reengineering. The required new IS role may actually be some mix of all three models:

Our role as the in-house IS function is to help our organization improve, that is, to change in a positive direction relative to the whole organization’s best interests. To do this, we must recognize that our view of the organization’s best interests does not always coincide with those of others. Therefore, we must sometimes use political advocacy, sometimes employ third-party facilitation skills, and sometimes invoke our technical expertise.

We see several major obstacles to adopting this new role — overreliance on technical expertise, authority to control or influence users’ IT decisions, and responsibility for technical outcomes. Technical expertise involves knowing and telling “the right answer.” But technically right answers can sometimes (often?) be wrong for social or political reasons. Insisting on technically right answers can actually prevent progress by inhibiting a workable organizational consensus around a technically adequate, if somewhat inferior, solution. In order to facilitate consensus, change agents must at least temporarily shelve their expertise and professional interests, because these factors can blind them to technically inferior solutions that are better because they can work (in the social or organizational sense). Similarly, control in the absence of line authority is a weapon that often backfires on those who use it. Control activity makes a staff unit into a political player with a vested interest in the outcome and therefore a prime target of others’ political might, when the unit tries to negotiate an enterprise-wide solution. Finally, responsibility for systems development budgets and schedules can divert IS specialists’ attention and interests from bottomline organizational performance (Markus and Keil 1994).

The first of these obstacles can probably be removed just by a change of mind. If experts can acknowledge that technical excellence is only one of several competing criteria for an effective solution, they will better be able to know when the technical best is not good enough. The second and third obstacles, may, however, require formal change in IT governance policies and structures. To be really effective as an agent of organizational change, the IS unit may have to eschew control authority, e.g., by pushing responsibility for IT standards back to business units or to some consensus organizational decision-making process. At the very least, IS units should probably separate as far as possible those individuals and subunits who perform the control role (e.g., budget approvals) from those whose activities involve IT-related organizational improvement work (e.g., system selection or specification, process reengineering, etc.). Similarly, Markus and Keil (1994) have recommended changes in the way IS units are measured and rewarded to reduce the dysfunctional effects of goal displacement.

Even very small IS departments have some internal job specialization. This suggests that not every IS specialist may have the same degree of client contact or the same involvement in bringing about organizational change. Thus, there is probably some argument for having different individuals specialize in our three change agent roles. And undoubtedly some of this would occur naturally, because of differences in individual skills and temperaments. But our tentative conclusion is that all IS specialists who do or could work with in-house clients need to be intellectually familiar with, and behaviorally skilled in, all three roles in order to be most credible and most able to contribute to organizational success with information technology. In our view, the most effective IS specialists are those who can shift rapidly from one model to another depending on the
circumstances. Our following recommendations for research, teaching, and practice reflect this, as yet unconfirmed, hypothesis.

A research agenda

Our analysis suggests the need for new branches of computer personnel and IT management research that builds on work by various researchers such as Farwell, et al. (1992), Trauth, et al. (1993), and Todd, et al. (1995) on IS skills and career paths; Iacono et al. (1995) on internal IS relationship managers (also known as internal consultants, client executives, or account managers); Buchanan and Boddy (1992) on project managers; Beath (1991) on IT champions; and Davenport, et al. (1992) on IT governance.

There are descriptive, explanatory, and prescriptive questions to be answered. Descriptively, we need to know how in-house IS departments and in-house IS specialists in various job types view their roles as agents of change. It would also, of course, be interesting to explore differences between IS specialists who work in-house and those who do similar work as consultants or vendors.

Explanatory research is needed to determine the relationships between the roles IS departments and specialists adopt and (1) organizational or individual differences, (2) structural conditions, and (3) particular types of IT-enabled change situations (e.g., traditional systems development, emerging IT, reengineering projects, infrastructure development). Similarly, we need to determine the relationships between change agent roles and the important outcomes of IS specialist and departmental credibility and organizational success with IT projects. The research in this category would build upon and extend past research in the areas of IS management, particularly the centralization/distribution debate. The majority of prior research in that area has emphasized cost and firm financial performance as the key outcome variables of interest (cf. Rockart and Benjamin 1991; von Simson 1990) rather than IS credibility and organizational success with IT projects.

Normatively, we also need research on how best to bring about change in IS roles and/or the structural conditions that underpin them. This research lends itself to field quasieperiments and action research. Academics who partner with IS managers attempting to change practice might make important contributions to theoretical knowledge as well.

Educational Reform

One dimension of change agentry is often called interpersonal or "soft" skills. (Knowledge of organizational behavior and intervention skills is also involved in change agentry.) There is a perennial debate about the place of soft skills training in IS and other technical curricula. We have attended numerous business meetings over the last few years where IS and business executives have complained about the lack of interpersonal skills in their new IS hires. On the other hand, we have heard numerous objections from our academic colleagues, not least of which is that, whatever IS executives say about the need for soft skills, they always hire the most technical students. Furthermore, colleagues who have helped develop or teach in IS curricula with a large soft skills component have told us that these programs often collapse over time because of the technical orientations of new faculty members.

Clearly, there are many unanswered questions about the need for, and the efficacy of, interpersonal effectiveness training in IS curricula. We don't know, for example, whether such training would benefit all students or whether it would benefit only those with particular career plans. We also don't know whether IS faculty have the knowledge and skills to teach such courses, even if good educational materials are available.

Despite the unanswered questions, we believe that the IS academic community should engage the soft skills education issue proactively. Some of the answers will undoubtedly
emerge from experience. Nevertheless, we have some initial thoughts about the relevant content and program structure.

First, in Table 2, we propose an outline of content areas for a "course" on change agentry. This course has as its objective the development of cognitive, affective, and behavioral knowledge and skill. This means that, in addition to "content inputs," e.g., lectures and readings on the topics, there should be opportunities for students to practice different role behaviors in circumstances where they can get constructive feedback about the effects of their behavior on others. We find that role plays (with video playback and small group critique) using case scenarios of realistic IS job situations are the best ways to foster affective and behavioral learning. We have seen relatively few published materials that are suitable for this purpose. Boddy and Buchanan's (1992) book on interpersonal skills for project managers is a useful model, but the examples are not tailored specifically to IS situations. We think that IS-tailored materials are essential for students to perceive the course as directly relevant to their career success. We have had some luck developing such scenarios by using excerpts from newspaper and magazine articles, qualitative research reports, and interview transcripts. We call the scenarios "credibility crunches" because they illustrate how IS specialists can enhance or reduce their own professional credibility by their responses to various situations that occur routinely in IS work. Much simplified examples include:

- The client insists that you acquire/build a system with specific features. You know that the intended hands-on users will find the system too hard to learn or else they will resist using it because of the way it changes familiar tasks or redistributes some important political resources. What do you do?

- You support several different client groups. Your clients have told you their priorities, but your boss in IS has given you a different set of marching orders. What do you do?

- Your client has just discovered that her project is late and seriously over budget. She comes in screaming at you (literally) and threatens to get you fired. What do you say to her?

In short, such a course already assumes a level of business experience and personal development that many young IS students may not have. Therefore, we do not recommend that a course in change agentry be offered to beginning IS students. However, a change agentry course would likely have little impact on students if it were offered at the very end of a program with no prior related work. This, we believe, is also the fate of other "broadening" subjects, like "computers and society," when they are left to the end of curricula. Therefore, we recommend that a change agentry course be the final course in a small track geared to "professional development." The first in the track, we believe, should be the "computers and society" course. We would offer this in the first year of an IS specialist curriculum for two reasons. First, many early IS students are stronger cognitively than behaviorally or affectively, and this course can effectively engage them at the intellectual level, setting the stage for later behavioral and affective growth. Second, this course promotes the development of insight and perspective before the student takes more technical subjects such as systems analysis, and so should precede, rather than follow, those subjects.

The second course in the professional development track would introduce experiential methods to complement cognitive skills development. The focus of this course would be interpersonal skills in the IS context. As with the change agent course, it would make heavy use of IS-specific exercises and role plays. At the content level, it would cover:

- Individual differences (cognitive, affective, behavioral) and the student's own personal styles

- Active listening skills, interpersonal conflict, interviewing techniques
Table 2. Proposed Educational Program on Change Agentry

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<th>Topic</th>
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<td><strong>Change Agentry</strong></td>
<td>• IT as an organizational intervention</td>
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<td>• What it means to be a change agent regarding IT in organizations</td>
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<td>• Different types of change agents</td>
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<td>• Structural conditions that support/hinder IS change agents</td>
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<td>• Routine difficulties that derail change processes</td>
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<td>• How change agents can/should cope with routine change difficulties</td>
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<td>• Professional, emotional, and ethical dilemmas of change agents</td>
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<td>• Explicit/implicit change contracts between agents and clients/targets</td>
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<td><strong>The Technical Expert</strong></td>
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<td>• Why the IS specialist lacks full status as a professional</td>
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<td>• The pros and cons of professionalism</td>
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<td>• Recent trends in medicine, law, accounting, and implications for IS</td>
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<td>• “Personality” characteristics of technical experts/IS specialists</td>
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<td>• Technical experts in organizations: the roles and relationships of “staff”/IS departments</td>
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<td>• When and how IS technical expertise is appropriately/inappropriately used</td>
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<td>• How to cope with defensiveness to avoid derailing change</td>
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<td>• When IS facilitation is appropriate/inappropriate</td>
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<td>• The ethical dilemmas of facilitators and how to deal with them</td>
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<td><strong>The Change Advocate</strong></td>
<td>• The history of change advocacy in grass roots (“radical”) politics</td>
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<td>• The goals, values, and ethics of change advocates</td>
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<td>• The general manager as change advocate</td>
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<td>• The IS specialist as change advocate</td>
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<td>• The tactics of change advocates and how they can be used in IS situations</td>
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<td>• Credibility/ethical issues in IS change advocacy and how to deal with them</td>
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- Recognition of, and intervention in, group and intergroup dynamics.

This course would be a mandatory prerequisite for the course in change agentry, the last in the soft skills track.

Changes in Practice

There are two areas of practice in which we see the need for initiatives, in addition to changing the structural conditions governing in-house IS work: (1) in-house training and
development for IS specialists and (2) IS professional ethics.

Recently, one of us had the opportunity to conduct a workshop on professional credibility for a group of high-level staff executives from a variety of disciplines (accounting, HR, IS) in different firms. The participants had many common concerns about their need for credibility to perform change management well and about the structural aspects of their jobs that jeopardized their credibility. The experience led us to believe that these issues should be incorporated into internal development and training programs for IS specialists. Here are our suggestions:

- Partner with internal training staff, organizational development specialists, and/or academics to design and conduct the training. Select trainers who are perceived as neutral (not able to evaluate the participants’ job performance) and skilled at giving feedback and dealing with emotional topics.

- Make participation in this type of training voluntary and avoid including bosses and their subordinates in the same training session. (Also avoid large differences in participants’ status.) Start experimentally with the most interested participants before trying to craft a large-scale program.

- Don’t worry excessively about training materials at first. Experienced professionals can easily generate their own. Before the first workshop, the trainers should interview participants about difficult situations they have faced in the past. These “critical incidents” can be sanitized and written up to serve as the basis for discussions and role plays of effective and ineffective behaviors. Over time, a much richer set of instructional materials and methods will evolve naturally.

- Document and disseminate some of the key lessons learned from the training sessions. The resulting document can be circulated to people who did not participate directly, sensitizing them to the issues and building their interest in attending the training.

A second area of practice that needs to be revisited in the light of our analysis is IS professional ethics. In-house IS change agency immediately raises profound ethical dilemmas to a much greater extent than other computer-related work, e.g., hardware development. For instance, when interests differ, as they almost always do, whose interests are to be served: those of the IS specialist or function, those of the user, those of the person or unit paying the bill, those of the organization as a whole? When we examined the ethical guidelines prepared by OD practitioners (c.f., Cummings and Huse 1989), we found that these issues are squarely addressed. But when we examined ethical codes prepared for the computer science community (Anderson, et al. 1993; Oz 1994), we found that they are not. In-house IS specialists clearly must concern themselves with the ethical issues that computer science codes cover well, such as intellectual property rights, privacy, risks, occupational health and safety, etc. But in-house IS specialists face additional ethical dilemmas arising from their change agent role that are not now addressed in relevant ethical codes.

To us, the conclusion is clear. The IS community needs a separate code that specifically addresses the ethical dilemmas faced by in-house IS professionals. It can incorporate the ACM and similar codes, but it should also go beyond them to tackle in-house change agency. We would like to see AIS, SIM, and other leading IS institutions champion this initiative.

**Conclusion**

We undertook this paper to stimulate IS specialists’ efforts to become more effective agents of organizational change. We discovered a variety of obstacles. First, we found widely differing views about what it means to be a change agent. Unless these differences are acknowledged directly, miscommunication is likely to arise, inhibiting progress. We found, further, that many IS specialists do not see any need to change, because they already view themselves as effective change agents. However, their definition of the IS change-
agent role does not fit the emerging structural conditions of in-house IS work, and this role erodes the credibility of the in-house IS function. In addition, we found several structural barriers to change in the IS change-agency role, especially overreliance on technical expertise, control authority, and an inappropriate reward system.

Despite these obstacles, we remain optimistic about the prospects for change in the role of the in-house IS specialist. IS managers and executives have the structural ability to act as effective change advocates inside IS departments. Further, IS managers and executives are likely to be effective change advocates with their peers and superiors when the topic is structural change in the IS function. Voluntary efforts on the part of IS departments to relinquish or share the control that their clients so resent could substantially increase IS credibility and influence in major enterprise change efforts.

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