

IT Sensemaking and Internal Partnering: Field Notes on Barriers

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Abstract

Internal partnering in the introduction of new information technologies presumes a coordination and accommodation among the efforts of heterogeneous participants to interpret, or make sense of, such technologies as organizational opportunities. Field data, however, suggest that prospective adopter organizations commonly face a number of obdurate barriers to coordinated sensemaking. The IS executive and his/her function may be ill-prepared to engage with business problems and may suffer crucial conflicts of affiliation. Users may lack knowledge essential for playing a serious role in envisioning the potential applications for information technology, and practical opportunities for their sensemaking may be procedurally unsupported. Finally, senior management may fall short in vital leadership.

Keywords

technological innovation, IT sensemaking, intra-organizational partnering

1 INTRODUCTION

The concept of partnering among individuals and organizations in the introduction of new information technology (IT) evokes a hopeful and even ambitious imagery. "Cooperation," "collaboration," "reciprocal learning," and "trust" are all likely to be called upon. Accordingly, practitioners and researchers seek exemplars of good practice (perhaps even "best practice") and, at a more abstract level, prescriptive models that point the way to methodologies for successful partnering. Still, we caution here that it would be prudent to temper our enthusiasm for exemplars and methodologies with field assessments of the general state of affairs in the types of organizations that might be claimed to benefit from partnerships.

In particular, we suggest that it is useful to examine constraints in the existing order of organizational roles and relationships, and in the current perspectives of those that occupy and reproduce those roles and relationships, in order to understand better the practical prospects for partnerships. We must recognize that “partnering” itself constitutes an innovative and problematic social technology, and is therefore not only a means to technology transfer but also a proper subject for scrutiny through the critical lens of empirical technology-transfer studies.

Accordingly, we focus the present paper specifically on the roles and relationships within those organizations that are prospective adopters of new ITs. That is, we consider adopter-side “intra-organizational” partnering. More specifically, we examine the “sensemaking” aspect of this internal partnering. Our report is empirical, being based on interview transcripts from a wider study of organizational innovation with IT conducted by Ramiller (1996) and described below in a methodological endnote. As will be seen, the field data suggest that prospective adopter organizations commonly face a number of obdurate barriers to coordinated sensemaking in their internal partnering.

Our paper proceeds in two basic parts. We first briefly characterize the intra-organizational players and their sensemaking problem in broad terms. We then consider the players’ participation in more depth, and identify the specific barriers which pose a challenge to successful partnering.

2 THE PLAYERS AND THEIR PROBLEM

2.1 The Players

Intra-organizational partnering around the tasks and opportunities presented by new ITs characteristically involves three major groups of players. This familiar triumvirate consists of the firm’s senior management, systems users and their management representing the firm’s various departments, divisions, or functional areas, and information systems (IS) management and personnel. This simple typology naturally masks certain complexities, but for the purposes of our analysis these categories will serve to capture the essential issues associated with different roles. Note, furthermore, that “senior management,” “users,” and “IS” identify the very categories the informants in the source study used in discussing their world.

2.2 What the Players Must Accomplish

Many of the compelling ideas for innovation in IS are, from the point of view of the prospective adopter organization, public ideas. That is, they originate in wider public discourses carried on in such forums as business periodicals, the IS trade press, and industry expos. Thus, over the last several years we have seen such familiar innovations as CASE, client server computing, data warehouse, electronic

commerce, and intranets sweep through the marketplace for ideas. Of course, what these innovations are said and believed to consist of evolves over time by means of those very public discourses, as diverse actors, including adopters, technology vendors, consultants, and journalists, discuss and debate their constitution, meaning, and significance (Swanson & Ramiller, forthcoming).

In their manifestation as topics of public conversation, IT innovations are necessarily general in their vision, and the claims for them are often exaggerated, unqualified, and noncontingent. For the prospective adopter firm, then, the central challenge in evaluating such a public idea is to accomplish a *contextualization* of it, linking it to local needs and conditions, and elaborating and specializing it appropriately. Figure 1 offers some informant remarks that implicitly identify contextualization as a core challenge.

Figure 1. Reflections on *contextualization*

“Nothing is transplantable in the real world. Nothing is. The dynamics of any organization are too complex, the interactions go infinite on you.” *IS manager 2* (p 3)

“... you really see if it has meaning, you know, as you understand it. Would it help your organization, would it help certain areas of your organization, where might it help, what are the benefits of it? ... you really need to drill down, in terms of what these concepts are, and what it means from an implementer’s point of view, and what it can mean to your business.” *IS manager 15* (p 2)

Contextualization of an IT innovation, as a process of practical discovery, entails the integration of both enactment and interpretation (Figure 2), and accordingly constitutes a classic case of “sensemaking” of the type identified and described by Weick (1995). In short, then, what the adopter firm must accomplish is to “make sense” of the IT innovation in a way that speaks to local requirements and constraints and thereby provides a foundation for effective choices.

Figure 2. Reflections on *enactment*

“... you can get caught up in looking at this world of technology horizontally... and not doing anything about it. You’re aware, you know. You’re just as smart as can be, and you’re aware of everything that’s going on. But as a company, you’re not doing anything about it. You’re not focused, and saying, ‘Okay, I’m going to move the business forward,’ or ‘I’m going to move the industry forward.’

So, you know, we can study study study, but if we don’t act... the industry will have passed us by.” *IS manager 14* (pp 13-14)

Figure 2 (continued)

“Get off of these talkers! The people that believe, are doing... What are you doing, what have you learned, what do you plan to do next? If they ain’t doin’ anything, just don’t bother to talk to ’em. IT is full of people that talk and don’t do. Not my kind of people...

It’s just that, there’s water out there - you gotta stick your toe in, some time. If you just sit there and keep reading and going to seminars, you’re basically saying you don’t really work and produce systems and change your culture. You just wanta go do seminars and talk and give excuses why you’re not doing anything.” *IS manager 15 (p 17)*

We view this ‘IT sensemaking’ as heterogeneous and coordinated. Where a reasonably complex IT innovation is concerned -- particularly one that is not merely technically complex but that also entails changes in business focus, organizational structure, work procedures, task knowledge, and incentive schemes -- the sensemaking challenge will demand efforts across users, IS, and senior management. This straightforward assertion builds on the insight that cognition in the accomplishment of organizational tasks is differentiated and distributed (Hutchins, 1995). It builds, more particularly, on the notion that the course of a successful organizational engagement with a technological innovation must involve multiple actors who bring to bear needed but heterogeneous resources and perspectives (Eveland & Tornatzky, 1990). Of course, precisely because heterogeneous perspectives are involved, the claim that parties must arrive at a “shared” view is not quite correct. Rather, participants must accomplish an accommodation or rapprochement of views that will sustain successful coordination (Donnellon et al., 1986; Weick, 1979). As has been noted for engineering-design processes (Bucciarelli, 1994), members of a prospective adopter organization can only reach such an accommodation through “talk,” sustained by a practical rhetoric that invites the participation of the crucial parties, supports the negotiation of central meanings among them, and provides tolerance for the inevitable ambiguities.

3 INNOVATION SENSEMAKING: A VIEW FROM THE FIELD

Of course, marshaling and coordinating the innovation-sensemaking efforts of diverse actors within the prospective adopter organization is not unproblematic. To the contrary, for many organizations there are obdurate barriers to overcome on the road to effective intra-organizational partnering in IT-innovation sensemaking. We consider some of those barriers in the following pages, as these emerged around informants’ reflections on the definitions, tensions, and performances associated with the sensemaking roles for IS, users, and senior management.

3.1 The Information Systems Executive: Competence and Affiliation

In considering the information systems function of the firm, our focus will be particularly on senior IS executives (e.g., CIOs), in recognition of the prominent part they commonly play in making the “authoritative commitments” (Tornatzky, Eveland, and Fleischer, 1990: 3) associated with the adoption and implementation of IT innovations. We should recognize, however, that the same role issues can be germane, to varying degrees, for lower-level managers and other personnel in IS.

That grappling with the major public ideas for innovation in information technology is an important task for the IS executive is common knowledge. Trenchant comments to this effect are given in Figure 3. On the other hand, complex and ambiguous role expectations and, often, a history of bad relations with users and senior management place the IS executive, as an innovation sensemaker, at the conjunction of contradictory forces that can profoundly affect both the positions s/he takes on IT innovations and (perhaps even more crucially) the perceptions others have of those positions.

The research interviews suggested that three major sources of tension plague the IS executive as an organizationally-situated innovation sensemaker:

1. A demand to think more squarely in business terms *versus* pressures to focus on technical matters
2. Service to one’s organization *versus* responding to the demands of a professional career.
3. Championing and supporting innovative initiatives *versus* exerting control in the interests of operational efficiency and political positioning.

Figure 3. Innovation sensemaking and the IS executive role

“... separating the wheat from the chaff [in IT innovations] is, I think, almost the measure of the executive. If you don’t separate the wheat from the chaff, you’re probably going to fail.” *IS manager 1 (p 8)*

“... these concepts come out – I need to know where I stand. But also I need to know where my company stands. And furthermore, this stuff is so pervasive today... everybody out there is a genius. You know, everybody is a genius. And, everybody is tellin’ me what to do and how to do it. And, um... I need to be able to converse with them, or confidently agree or disagree with them. Otherwise I’ll never get anything done.” *IS manager 15 (p 7)*

Where the first of these three tensions is concerned, the normative push is strongly in the direction of the IS executive being more business-oriented; no informant actually identified a situation in which an IS executive was considered “too business-oriented.” To the contrary, the IS executive is haunted by the stereotype of the techie or nerd, the DP manager who really just wants to program something, whose way of thinking is alien to and frequently at odds with the goals of the wider business. Representative quotations characterizing the business/technical tension are given in Figure 4.

Figure 4. *Business focus versus technical focus in the IS executive role*

“[The old system] was within my domain, and it wasn’t working... and you had an information systems manager who felt threatened by this [systems replacement] project. And particularly felt threatened by the outside packages part of the project, ’cause he... clearly wanted to be allowed to develop a brand new system... a really finely tuned machine...”

So that’s one of the things I remember being particularly difficult about this problem. I didn’t have an information systems background, except as a user. I was responsible here for making some decisions in the area, and I had an information systems manager who I didn’t trust because he had his own agenda there.” *Business executive 2 (p 8)*

“... this is the IT mentality: ‘Real men don’t buy packages. Real men write custom code. And I can write it faster, and I can get exactly what you want.’” *Consultant 4 (p 9)*

“... there’s the IS people we deal with that are probably technically extremely proficient, but couldn’t give a gosh-darn about the business, necessarily... And then what differentiates someone that’s really good in IS from those folks are the people that truly want to understand the business and that talk to the users and understand... not what they’re trying to do, but what their ultimate goal is...” *Business executive 4 (pp 12-13)*

“... at some point I realized that I was being paid by a company that had to sell a product, and that the job of systems were to facilitate that sale in a profitable manner. And to the extent that we help the company do that, we’re doing our job. But, you know, my job is not to have the latest gee-whiz.” *IS manager 1 (p 9)*

“... what happens in industry is these, these people in these kinds of jobs... I don’t know if they’re trying to impress people or what, but they all want the latest and greatest... toys.” *Consultant 10 (p 22)*

To counter this negative image, the IS executive must attempt to frame his/her evaluation of a particular IT innovation in business terms, while translating technical jargon into everyday language by means of analogy and metaphor. This has implications both for how the IS executive represents the innovation as substantive reality and organizational opportunity, and for how the IS executive actually thinks about the innovation. But persistent skepticism arises about the capability of the IS executive to do these things (Figure 5).

Figure 5. “Language facility” and the IS executive

“... you can’t have an information technology group that’s over here in some other building that never talks to you... You know, you have to have a dialog, you have to have a flow of information. They have to be able to speak English. I’d never have an information systems manager in my company that couldn’t speak English. I don’t mean English versus Arabic. I mean English versus techie shit. Uh, you know, you gotta tell me what this means in terms I can understand. And I’m not gonna go get trained in IT terms so I can comprehend what we’re talking about.” *Business executive 1 (p 9)*

“... you sit across from a guy and look into his eyes, you can tell when a guy’s listening to you or when he’s understanding you. If you start talking about... how you’re gonna make cars fly, and you get that glazed look... and, I mean, that’s what happens to CFOs -- chief financial officers -- and chief executive officers. When they get that glazed look on their faces, you’re in trouble. The topic’s in trouble and you are personally probably in trouble.” *IS manager 8 (pp 4-5)*

“[There’s] just a crying need for... information and communication. And IS executives, here and at other companies... you know, highly intelligent beings that look at the world in a different way...

So, you know, you’re off rambling about something -- in terms of the systems arena -- it has no point of reference to the sales guy! He has no idea what you’re talking about... And he’s goin’, ‘All I want is my peaches. Talk to me about peaches.’ ” *Business executive 4 (p 16)*

The second tension arises in the competition between the IS executive’s affiliation to his/her current organization and his/her attention to profession and career. Where a specific IT innovation is concerned, informants argued, IS executives sometimes push their organizations into suboptimal investments because it serves their careers (Figure 6). This agency hazard was considered endemic to IS practitioners more generally.

Figure 6. *Organizational versus professional orientation in the IS executive*

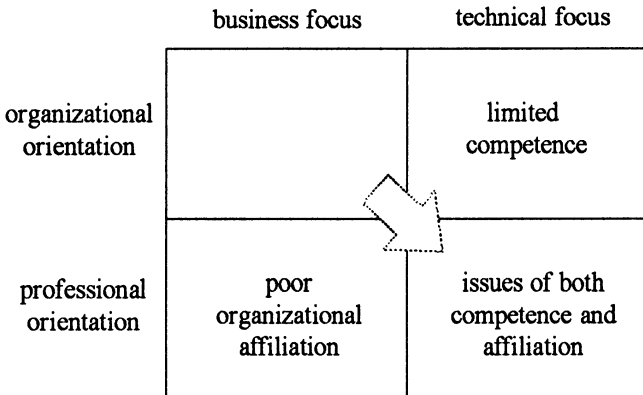
“The head of the IT organization [here]... it’s not, you know, any of these buzzwords [in particular] as much as that she hears about them... and it’s important that she be able to say, ‘Yeah, we’re doing client server and we have nu-nuh nu-nuh nu-nuh.’ It was important at one point to say, ‘Yeah, we’re doing CASE and nu-nuh nu-nuh nu-nuh’... to her peers and so forth. But in terms of getting involved and saying, “Gee, are we doing the right thing?”... that’s never been a strength.” *IS manager 6 (pp 7-8)*

“... a lot of the decisions are very self-serving, at the MIS level. And it has a lot to do with the value of the individual in the marketplace... The words are: ‘If I don’t move my organization to client server, my organization is going to be behind the times.’ Many times I believe the motivation is: ‘If I don’t move to client server, I won’t learn it. I’ll be behind the times. My value in the market will be diminished.’ ” *Consultant 7 (p 7)*

“... a lot of people in IS or DP... they think they’re in the IS industry, as opposed to the automotive industry or the aerospace industry or...” *Consultant 3 (p 23)*

The tensions between the business and technical, and between the organizational and professional, tend toward interdependency, as Figure 7 suggests. The arrow in the middle indicates the general trend: Informants argued that IS executives tend to be **both** too technical **and** too professionally oriented, a reasonable contention if we believe that professionalism within IS is more strongly linked to, and identified with, technical expertise.

Figure 7. *Interdependence of competence and affiliation*



The third tension suspends the IS executive between being a *champion* or *facilitator* of organizational innovation with IT and being an *agent of control* over IT. This tension is visited with more ambiguity than the first two, where informants' normative judgments are concerned, because both innovation and control are perceived to have their necessary virtues.

This tension is set against the historical migration of computing power from the "glass room" and out to desktops, factory, and field, with a corresponding redistribution of control from the IS unit to users. One informant summarized the implications of this for the IS executive role by saying that he was now more an "internal consultant" than a "computer czar" (IS manager 7, p 15). A similar image represented this as a shift from being a "priest" to a "partner" (IS manager 15, pp 3-4; IS managers 1 (p 3) and 7 (p 6) also used the priest metaphor in this way). In this context, when the IS executive continues to press such issues as security, standardization, maintainability, and operational efficiency, s/he is readily accused of undertaking a rearguard political action to recapture control. At the very least, s/he is viewed as being unresponsive to users' needs and having a dampening effect on business innovation (Figure 8a).

While internal politics may indeed be at play, control nevertheless continues to be a legitimate corporate concern, and in fact is often amplified by the costs and hazards associated with distributed systems and client server development (Figure 8b). However, while the IS executive may be continue to be held accountable for control (or loss of control) and its consequences in such evolving environments, s/he may simultaneously be pressured to exhibit strategic leadership in IT innovation (Figure 8c; and see Scheier, 1996). In general, then, the IS executive may be subject to expectations that are difficult to reconcile. Such expectations can both complicate the IS executive's substantive innovation sensemaking and situate his/her expressed opinions in a crossfire of skepticism and doubt.

Figure 8a. The problematic emphasis on *control* in the IS executive role

"... if you look at emerging technologies... over time, the IT organization was kinda like the last one to embrace this stuff. They were given these things [by senior management] as a control mechanism. So the IT organization historically has played, um, a role of office cop or policy enforcer, as opposed to innovator. There's very very little that the IT organization has actually ever contributed in an innovative way to business." *Consultant 4 (p 1)*

"... we got to the point in information technology... where we got so much structure and so rigid in our rules, which are important... But the problem was, we got so rigid that we stopped supporting the business user. We got hung up on our things." *Consultant 2 (pp 4-5)*

Figure 8A (continued)

“In IT I feel my real power, per se, is whether I can influence, as opposed to who I can control. But most people in my job don’t talk that way. ‘What do you do?’ They’ll talk about the number of people, and the budget, and the number of transactions per second... how the business will die if they don’t survive.” *IS manager 15 (p 4)*

“... the CIOs who are mainframe bigots want everything on the mainframe, and that way they can get better control over it... as opposed to going to a distributed environment where, lo and behold, the users have more control over their destiny.” *Consultant 10 (p 18)*

“... the decision makers in the systems department have all come from the big-iron mentality. And I think they saw their own importance, how important they are as managers of equipment, was directly related to how big the systems were that they were running. And, if you downscale the systems, you’re downscaling their importance.” *IS manager 5 (p 6)*

Figure 8b. The persistence of *control* as a legitimate concern

“... what’s happened in the client server arena is that there is an absence of a methodology... The problem with that is, in losing the methodology, we forgot about all the infrastructure that has to go along with the systems development, like security, performance, um, disaster recovery... All those things got left out, because they were being done outside the ivory tower of IS...” *Consultant 2 (pp 3-4)*

“I believe we will see the pendulum swing back a bit to saying, ‘Wow, um... we never realized that [client server development] was taking as long or was costing as much as it is. We better get back to some sense of... um, not control, but at least central coordination.’ ” *Consultant 9 (pp 12-13)*

“One of the reasons I think businesses are so eager to adopt [client server]... is that they mistakenly believe that, somehow, you loose them from the tyrannical constraints of the MIS department. Alright? It’s, ‘Ah, I can put more computer power right here.’ But I honestly believe that... what will be written someday, 20 years from now, when people look back, is that we became more dependent than ever on the MIS group and the technologists for managing all this stuff. Because as client server has developed, and the number of tools in the client server world have multiplied like bunnies before Easter... uh, nobody can keep track of this stuff anymore.” *Consultant 7 (pp 12-13)*

Figure 8c. Pressure for strategic leadership in IT innovation

“There are some [CIOs] who I believe are quite forward-thinking... quite, uh... risk-takers, who are willing and able to experiment, and try and maybe bet the chips on newer technologies more aggressively and more rapidly than some of their counterparts...

[They realize] that in order to keep their management in business and be on the leading edge, like the CIO of the S&L I referred to... She realizes that her job depends on being able to implement these technologies as fast as, or faster, than any other competition. And as soon as she is perceived as not enabling the organization to move along with those technologies, she will be gone.” *Consultant 9 (pp 20-21)*

“[IS executives] are under pressure to do things, to hit some home runs.” *Vendor representative 2 (p 5)*

3.2 Users: Preparedness and Contribution

Meanwhile, informants expressed significant reservations about the preparedness of business users to participate in collective efforts to determine the potential applicability and value of IT innovations. This issue is foreshadowed in quotes given earlier, including the one about the sales manager who “just wanted his peaches” (the commentator is an operations executive for an agricultural products firm) and the quote from the CEO that, “I’m not gonna go get trained in IT terms so I can comprehend what we’re talking about.” Users’ lack of familiarity with technical terminology is, of course, suggestive of a deeper lack of understanding of basic technology, its capabilities, and its extensions or incorporation in innovations. This lack of understanding, some informants contended, crucially hampers business users’ ability to envision new possibilities with information technology:

“... when people who are not systems knowledgeable ask [for something new]... by the time they ask, they only ask, geez... what’s very obvious. It’s not leveraging the technology at all!” *IS manager 4 (p 11)*

A number of informants argued that the ubiquity of computers in the wake of the desktop revolution would steadily raise business users’ core understanding and, hence, improve their ability to contribute to innovation sensemaking. Others were not so sanguine. The CEO and operations executive identified above both raised questions about the ability even of the technically savvy business executive to keep up in the face of accelerating technological change (Figure 9).

Figure 9. Requisite technical knowledge as a barrier to user engagement

“You know, all this new stuff’s coming down the pike, and even if they went to school for six months and got fully indoctrinated in the area... three years later they’d be out of date again, you know, because of the changes... You really can’t, you know, you really can’t expect that...” *Business executive 1 (p 16)*

“I find myself in an unusual position now, in that the technology is getting away from me. And this is the first time that’s ever happened to me. I’ve always basically understood as much as a user needed to... what was going on, what the restrictions were... what, what the risks were...

And now I’m getting out into an area where... the ice is very thin, and I can’t support the same kind of role that I did six months ago.

And I think that’s probably happening at other companies, as well. The technology has just gotten so far advanced so quickly that the technical-minded user -- and I have counterparts in every company... I suspect it’s getting away from them relatively quickly, too.” *Business executive 4 (pp 4-5)*

Besides lacking crucial technological language and knowledge, business users often do not enjoy a supportive organizational process for making their specific kind of contribution to innovation sensemaking -- the discovery of the innovation’s applicability in the local context. Users, informants argued, necessarily visualize the possibilities for new IT progressively through continuing interaction with it. Figure 10 offers a number of comments in this vein, couched mainly in terms of systems development, which provides the context in which users most often engage with innovative information technologies. However, in practice, the typical systems project does not give users the opportunity to experiment and explore in a way that would best support their (timely) innovation sensemaking.

Figure 10. Users and the practical discovery of applications for new IT

“I’m of the belief that our customers don’t know what they want. They don’t know ’til they get out there and they start looking at [it].” *Consultant 10 (p 6)*

“Requirements definition is a waste of time and money. Those chartered with signing off, and with defining requirements, aren’t good at it.” *Consultant 11 (p 6)*

Figure 10 (continued)

“You’re never delivering a finished product. You deliver, or you implement, a system somebody thought they wanted, to start with, but that’s almost the beginning of the system...

One of the Japanese philosophies from [name of prior company] was, when you build systems... their concept is, it’s like delivering a baby. We’ll give you the barebones system with the rudimentary capabilities that you need, and then as you work with that system, once you get in there and work with it, then you’ll really know what it is you want it to do, and then you’ll know your requirements.

One of the things that makes [system development] take a lot of time is this concept that we have to go off and get all the requirements. First of all, you assume that the user knows what he wants. A very big assumption. But they think they do... Most of the time they don’t.” *Consultant 3 (pp 29-30)*

“The user will understate his requirements... a hundred percent of the time, myself included. Because I just don’t understand... how the program works, so how could I possibly communicate what needs to be changed about it.” *Business executive 4 (p 16)*

“... you never really know what’s wrong and what mistake you’re making until you see the first output, and then you realize what you should have done” *Business executive 2 (p 11)*

3.3 Senior Management: Responsibility and the Scope of Sensemaking

Senior firm executives constitute in one sense a subcategory of User, and in that capacity they participate well or poorly according to their capabilities and opportunities in making sense of IT innovations. However, senior management also plays a unique and pivotal role, because of its privileged position of authority, in shaping those very opportunities. For example, funding practices can make the difference between, on the one hand, fostering effective, progressive enactment and interpretation of a new technology and, on the other hand, driving IS or business users to bid headlong for large-scale commitments, to “go to the well once” (Consultant 3, p 30) to ask for everything they think they might ever want in that technology.

Senior management is also in a crucial position to affect the very conceptualization of the innovation, and in particular people’s grasp of its true *sociotechnical scope*. By this we mean reaching beyond the innovation’s obvious technical components to embrace the changes in structure, coordination, task knowledge, performance measures, and incentives that define it as an organizational innovation. Thus, in Figure 11a a research firm executive suggests that client server computing has suffered widespread practical failure because

senior executives in adopter firms have construed it in excessively narrow and technical terms, ignoring changes in the allocation of authority intrinsic to its realization. Moreover, the quotations in Figure 11b, which concern senior management's efforts to drive organizational change through the medium of new systems, evoke a pattern of willful neglect and suggest a history of deliberate disengagement from the hard work of figuring out the policy changes that specific IT-based innovations entail. As the remarks in these figures imply, senior management's failings in this area ultimately affect how others perceive the innovations in question.

Figure 11a. Failure in *sociotechnical scope*

"... two years ago client server was tantamount to a miracle drug. You know, you take it and all your problems go away. Today our research indicates that less than 10 percent of client server projects have been successful..."

Let me explain. The true benefit of client server is empowerment. But if empowerment does not exist, even if I give you the tools to be empowered, what have you gained? If I give you the information to be a knowledge worker and make decisions... but I don't give you the policy approvals or the authority [to make] decisions based on that information... what's the point?

And so what happens is, do the technologies work? Sure! They aren't unsuccessful in that way. Have they delivered the benefit? Not yet, because the business hasn't caught up... the CEO isn't willing to say, 'We're gonna change, and we're gonna bet that our people out there are good people, and they're gonna make good decisions'..." *Senior executive, research firm 1 (p 23)*

Figure 11b. Driving organizational change through systems initiatives

"... if you've ever done implementation, like, big-scale implementation... the first 25 change orders that come in -- almost could bet ya' a good dinner -- are gonna make that system look like the old system. And do you know why? 'Cause the executive didn't tell the people in the field what the new system was. We changed the system to accommodate a process that was his vision, but we never re-engineered the process."

This supervisor says, 'I gotta do this job... but I can't do my job with this new system. I gotta either change my job -- and I have no authority to change my job, nobody told me to change my job... so what I need to do is I need to make this system like the old system...'

So, all these change notices go in and then that system moves back to looking like the old system...

Figure 11b (continued)

And then the executive says, 'I'm not gettin' any value for my information systems dollar! I just spent two million dollars putting this system in -- where's the benefit?' " *Consultant 4 (pp 10-11)*

"Too many people say, 'God, this place is clunky, why don't we... program something to make it smooth.' And then they do, and then they jam it in place, and...a) you've got 8,000 enemies... b) you're making the information system itself be the scapegoat for every degree of change you are unwilling to do as a manager, interpersonally with your people and your employees and so forth. And so that makes... 8,000 really irate enemies [laughs], whoever they all are. And... c) there's no way that a... IT department, a set of programmers, a project manager, or whatever can fully understand how a business really operates, to be able to program... a different way of doing it..." *Business executive 1 (pp 4-5)*

4. CONCLUSION

For the heterogeneous members of a prospective adopter organization to make sense of an IT innovation in a way that will support effective action requires certain favorable conditions. The perspectives reported here suggest that those conditions are often problematic. The IS executive and his/her function may be ill-prepared to engage in business issues, and they may suffer crucial conflicts of affiliation; users may lack knowledge essential for playing a serious role in envisioning applications, while practical opportunities for their sensemaking may be procedurally unsupported; and senior management may fall short in vital leadership. Identifying and ameliorating problems in these areas must therefore be part and parcel of any effort to move an adopter organization forward toward effective internal partnering in the deployment of IT innovations.

While we have not focused on it here, "extra-organizational," external partnering may be expected to rest on comparable problems in coordinated sensemaking. Consider, for example, the roles of vendor representatives and consultants in facilitating much IT adoption and implementation. Here again, we should be able to identify and articulate specific barriers to effective partnering. We leave that to future study and analysis.

5 METHODOLOGICAL ENDNOTE

Ramiller's (1996) program of interviews sought to develop a rich picture of IT innovations as a strategic challenge in sensemaking. It focused on a small set of current IT-related innovations: CASE, client server computing, data warehouse,

and business process re-engineering. Thirty-six individuals were interviewed. Included were IS executives (16) and senior representatives of systems consulting firms (10), plus non-IS business executives (4), representatives of technology vendors (2), trade journals (2), and research firms (2). As the views represented are decidedly from a senior level perspective and not equally drawn from the roles discussed in the present paper, they are only suggestive, not definitive, of barriers to sensemaking and internal partnering.

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7 BIOGRAPHY

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