THROUGH A GLASS DARKLY:
THE ANOMALY OF STREAMLINED MANAGEMENT

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We noticed that the term "streamlined management" (SM) is being used indiscriminately. We know of several systems acquisition activities that purportedly have used SM, so we asked what that meant. We found that SM is sensibly constructed as an ensemble of programmatic, organizational, managerial and human arrangements, meaning that they work only in concert. This finding matches leading-edge management theory, but represents an anomaly to program managers (PMs) because it violates the conventional paradigm of piecemeal improvement.

From the fundament of the defense management review to the hoopla of total quality management, the DOD mandate is efficiency. Many published discussions on this issue mention SM: Often lauded (Amouyal, 1990), though occasionally lambasted (Bond, 1990), the label is applied indiscriminately; that is, it is used either to mean whatever the author (or reporter) says it means (Hardesty, 1985), as a self-evident term (Betti, 1991), or as a rubric for any and all techniques that are intended to increase organizational efficiency by paring layers of management (Morocco & Bond, 1990). If this sort of ambiguity seems inconsequential, don't shop for a "mouse."

We noticed this situation and were bemused because we have been assigned to, or consulted for, several DOD program management organizations that use SM. We decided to investigate what SM means to users and contribute our findings to the program management community. We want our research to clarify, not further confuse, the issue. We do not use our data to construct yet

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another definition of SM; rather, we reconcile our findings with management theory, to evaluate what works.

METHOD

We felt our inquiry would yield the most valid results if we gathered data from multiple, open-ended interviews in organizations with which we are familiar. The conclusion is based on a sophisticated body of knowledge about the design of sociological research in organizational settings — our target. Considerations range from the fundamental (nature of reality) to the pragmatic (obtaining valid information). We want to convince you that our method is valid but not baffle you with the argot of research design.

It's important to realize that SM is a label, but not what is labeled. Labels provide convenience in a complicated world only if there is reasonable consensus about that to which they refer; otherwise, there is ambiguity as with SM.

Streamlined management is a set of ideas independent of our comprehension. The reality of SM is that it is what we understand it to be.

There are grounds to reject the assumptions that researchers can operate as independent observers and formulate standard questions for research subjects from which unbiased, statistical inferences can be drawn. Instead, it is the collaboration of researchers and subjects in mutual exploration of the topic, that yields understanding (Burrell & Morgan, 1979). Rather than use standard questions in our inquiry, we painstakingly constructed the meaning of SM in each organization from the copious notes we took in extended interviews with members. We discovered unsolicited themes and recurring idea sets that were volunteered by participants about SM. Rather than stand back from the data, we immersed ourselves in it, until we were convinced that we had captured the social reality to which the label SM was applied in that organization.

The several organizations we researched were conducting DOD program management activities, to which either or both of us had been assigned or for which we had consulted. In each case SM was an acknowledged part of organizational reality. We guaranteed organizational and personal anonymity to preclude qualms about propriety.

We interviewed some members of each organization, except one. We stratified our interviews vertically and horizontally; that is, we interviewed members from the top to the bottom of the organizational hierarchy, and across the range of program management functions. At the excepted organization, access considerations limited our interviewing one member — a highly-experienced PM. In every organization, we interviewed either a military general officer or a civilian senior executive service member.

Before the interviews, we could not know whether there would be a high consensus about SM within each organization. Further, we had no basis to predict if the respective organizational realities about SM would coincide. While the organizations are independent in hierarchy and mission, they are also

citizens of a program management community in which people and wisdom are transferred.

After the interviews, we reconstructed SM in each organization and considered the realities in relation to each other. To do this, we used the simplest dialectic model of analysis complemented by synthesis. For the analysis, we built a set of categories to provide conceptual clarity. For the synthesis, or putting back together, we built linkages showing how idea sets related to each other. Finally, we compared our findings to management theory to suggest implications. This may seem opposed to the usual order of scientific inquiry where theory is the basis for hypotheses, which are then strictly tested. In this case, however, rather than allowing theory to impose a structure on the data, we enabled the data to compose whatever reality was there.

To recap our method in program management jargon, we did an analysis and synthesis of SM at a "grass roots" level, using a method designed to capture the richness and variety of actual thinking in the field rather than the pseudo precision of a standard instrument. We do not pretend our findings about SM are definitive or exhaustive; rather, we intend that our results supplement the "parametric" approaches to SM being undertaken by others and whereby SM policies are directly designed and implemented.

FINDINGS

Naturally, the precise details of SM differed from one organization to another depending on circumstances: but we found conceptual congruity about SM in our population.

To clarify the elements of SM that we discovered, we constructed a classification scheme *post hoc*; that is, the categories were not inherent in the data but were created by us to suit that data. They are:

Programmatic — streamlining acquisition processes
Organizational — streamlining organization systems
Managerial — streamlining managerial roles
Human — streamlining individual performances

Our scheme is a loose empirical taxonomy of streamlined management that descends from the more general (programmatic) to more particular (human) practices. However, our only purpose in assigning a specific finding to a category is to partition variety for illumination. Therefore, if you believe a certain issue belongs elsewhere, be assured the difference does not affect our conclusions. In the next paragraphs, we present our analysis—the pieces of SM that we found. For brevity, they are distilled, but in our opinion, they accurately summarize the actual practice of SM in these organizations.

PROGRAMMATIC ELEMENTS

Everyone we interviewed reported that SM minimizes reviews and oversight, especially by external agents. While this seems obvious by definition, the focus of their experience was on the lack of value added. They acknowledged the need for programmatic checks and balances; but, in their opinions, the many "what-if" requests, special reports and additional audits demanded by outsiders, primarily congressional staffers, contributed nothing to the success of the program while raising costs and slipping schedules. They surmised that the ever-increasing volume of review and oversight is caused by burgeoning congressional staffs and increasing legislation designed to regulate past problems. One organization virtually tripled in personnel size during a 5-year period, primarily to cope with expanding review and oversight requirements!

Stable requirements were seen as indispensable to SM. In dynamic threat, high-technology program environments, it is acknowledged that some requirements drift is inevitable; but SM practitioners emphasized caution in tailoring requirements to program needs and ensuring that everyone, from designer to user, has a common understanding of them.

From a programmatic vantage, SM means establishing firm requirements and not allowing external reviews and oversight to impede the program process.

ORGANIZATIONAL ELEMENTS

Two recurring themes in streamlining the acquisition organizations we investigated were the buffering of personnel and a flat hierarchy. Again, these are neither surprising nor mysterious. Buffering refers to designing the organization so program operators are relatively insulated from the inquiries and demands of external agents as discussed above. Creating tight-knit working teams around a program element function or a problem is more than just a productive human resource arrangement; it also minimizes the number of interfaces that drive requirements changes.

We can't improve on the definition of hierarchy given by a person we interviewed: "... it's the number of wickets you have to go through to get to the top." A common feature of all the SM organizations investigated was a short chain of command and direct lines of communication, designed to avoid briefing any level that can't give approval but can direct change. One organization that transitioned from SM to an orthodox acquisition environment experienced an increase in briefing cycle from 3 days to 3 weeks, and an increase in funding authority cycle from hours to literally more than a year!

A third organizational element of SM mentioned by a senior PM is more an organization mentality than a structure. Streamlined management works where program organizations are understood to be mission executing, not staff, with the PM as commander in chief, not chief of staff. By analogy, contrast the conduct of Desert Storm with the aborted rescue attempt of the Iranian hostages. In each case, of the ability of the on-scene manager to conduct the mission

unencumbered by laborious organization channels was construed as vital to success.

From an organization vantage, SM means a hierarchy with only the review levels germane to decision making. It is organized to shield program operators from outside intrusions, and designed to achieve the program mission, not act as a staff to be tasked intermittently by higher authority.

MANAGERIAL ELEMENTS

Considering the "M" in SM, our research uncovered two major implications for the role of managers: the importance of trust and an impetus toward action. Interviewees emphasized that, for SM to work, relationships must be bonded by trust. In particular, they cited the relationship between government and contractor, where a sense of community and team spirit must be fostered. Of course, this also could be construed as the military-industrial complex that has been criticized in the past; but it is the relationship that predominates in the SM organizations studied.

Trust enables a bias to action. Those interviewed agreed that more money is typically wasted by deliberating day-to-day decisions in a conventional program management mode than by making timely decisions, even if sub optimum, in an SM mode.

From a managerial vantage, SM means trust and action. Both are counter to the conventional image of an arms-length or even mildly adversarial relationship between government and contractor, with operating decisions subject to approvals by higher authority. But, both were reported as indispensable by those who practice SM.

HUMAN ELEMENTS

We use this category for those parts of SM that pertain to individuals operating the program, including the importance of taking risks, the necessity for individual accountability and the value of experience. Certainly, hiring capable people and allowing them to take risks while holding them accountable is a paradigm of good (if perhaps utopian) management. Nevertheless, interviewees unanimously viewed these conditions as specifically instrumental to SM. They pointed out that risk cuts both ways; that is, individuals must be encouraged to take risks in pursuit of program goals. At the same time, organizations must be prepared to risk absorbing the reasonable costs of those individual risks in consideration of the payoff in human capital investment.

Risk is tempered by accountability. Those interviewed emphasized that for SM to work, "everyone must know who's sinking, swimming, or treading water. There's nowhere to run or hide."

Interviewees confirmed that getting and keeping experienced people is vital but can be a stickler. One senior PM borrowed the term "burn-in" from electronics to describe the process whereby he subjects people to a diversity of

program responsibilities in quick succession to enhance their ability to evaluate the impact of various factors of the program.

From a human vantage, SM means people who know how to do the job, are willing to act independently, and are prepared to accept responsibility for those actions.

SYNTHESIS

We suspect these findings of the common elements of SM will come as no surprise to the acquisition establishment, though it is still useful to have them confirmed. What is interesting is the virtually unanimous view that it is as much the integration of these elements that matters as the elements themselves. Often throughout our inquiry, we were told that the crux of SM is not just paring levels of review, empowering risk-taking, etc., as mentioned above, but, more importantly, that all of these things work together. This finding is at once intuitively obvious yet deeply insightful. It is, however, also superficial until we can derive its practicality for program management. To do so, we shall anchor it in management theory and then consider its implications.

THEORY

Let's start with a root idea — complexity, which can be thought of as the product of the number and diversity of factors that apply in a management situation, is compounded by ambiguity, the degree of clarity in the identity of each factor. This, in return, is compounded by uncertainty (the probability that each factor will be in any one of all its possible states) and by change (the rate at which all of the above becomes different over time). Even if these factors combined algebraically (factors X ambiguity X uncertainty X change), they quickly become overwhelming. In fact, they proliferate exponentially (factors raised to the power of ambiguity raised to the power of uncertainty raised to the power of change), making sheer complexity the focal problem of modern management. In turn, SM comes into focus as a way of managing the high complexity inherent in systems program management.

Historically, management theory has treated complexity by attenuating it, reducing the number of factors by importance, ignoring ambiguity by assumption, resolving uncertainty by worst–case or expected value, and holding the situation constant (no change) for linear cause-and-effect analyses. This has not made management optimum, but it has made it possible. Many of the SM elements that we found are in this tradition: reducing the number of factors (limited oversight), holding situations constant (requirements stability), etc. This is the conventional wisdom about streamlining management by simplification.

Leading-edge management theories, however, take a new tack in the sea of complexity, asserting that complexity can be managed in its own right. The concept is integration, but it is important to understand that we do not mean

everyone communicating with everyone. Rather, we are invoking recognition of the management situation as a complex system, with attributes that cannot be explained by reference to its elements alone, and integration as the understanding of that whole. There are two levels to this understanding.

The first is systematic: building a set of viable relationships among the elements, so they combine purposefully. We found evidence that SM is being realized at this level. For example, our data suggest a systematic link in SM organizations between hierarchy and trust. A high level of trust allows the streamlined organization to be sparse, with few levels; simultaneously, having a lean organization necessarily enhances trust, because with so few people the program can't get done any other way. Thus, these elements of SM work together. A similar link exists between the organizational strategy of buffering and the human element of experience. Experienced people need to be buffered to be effective; at the same time, a buffered program organization core must contain experienced people.

The second level of integration is systemic: building a model that captures the pattern, or metalogic, of a management situation; that is, the logic embedded in the system of relationships, but not an exhaustive specification of all relationships. Here, our evidence is historical. Consider that the heritage of SM in program management is the so-called "skunk-works" programs. Surely in legend, and we think substantially in fact, these were small, swift management systems that coped successfully with highly complex acquisition challenges — the ultimate in SM. Our conjecture is that, in addition to ruthless streamlining, these systems succeeded because true systemic integration happened. It happened in the head of the PM. The human brain is not the best storage space for pieces of information, and it is not the best mathematical calculator. It is still far and away the best complexity integrator and pattern recognizer ever known. The exciting prospect for management knowledge is that we are beginning to understand how the brain does that and beginning to have the information processes to replicate it (Wilber, 1992). In SM history, it appears that the direct descendants of the skunk-works managers carried down not only the pieces of streamlining, but some vestige of its totality. They articulate their understanding of SM integration at the systematic level. Our belief, however, is that it has derived from a true systemic origin. As programs spawned at skunk-works expanded in scope, the PM as integrator was no longer feasible. Streamlined management procedures were kept; and, in those instances where integration of at least the systematic kind was retained, SM is still considered viable. In other cases, SM is still present in pieces: but integration is gone. There is frustration, and a vague longing for "the good old days when you could get things done around here."

Our dialectical research loop is closed, then, with the synthesis of theory and findings. Streamlined management is being practiced in certain acquisition settings, and it means practically the same thing in every one. It means

programmatic, organizational, managerial and human arrangements; but, more importantly, it means integrating them, either by painstakingly building from scratch and then maintaining their relationships, or by understanding and controlling their overall logic. This reconciles with emerging management theory, that posits complexity as the metric and constructs information-based models to cope with complexity instead of quashing it.

IMPLICATIONS

We see two major implications in our findings; taken together they are optimistic but drastic. The optimism arises from the first implication that SM, when understood to mean robust integration as well as just, discreet practices, is not a skunk-works artifact, but may be useful in a broad range of acquisition situations. The second implication, however, is that achieving integration cannot be done on the margin; typically, it demands system reformation, which is drastic.

Thus, the two allusions of our title. "Through a Glass Darkly" is an excerpt from the Christian Bible, I Corinthians, Chapter 13. The pertinent verses are: "For we know in part, and we prophesy in part ... now we see through a glass darkly; but then face to face." (Bible, KJV) We use it to convey the essence of our finding — SM is something that, through our research we have come to know, in part, and yet can only predict or prophesy, in part. Further, we think others instinctively share our view without having conducted an inquiry. We all know intuitively that integrating management elements is more important than the elements yet, we can only predict it; we can't necessarily make it happen when we want it to.

The second allusion is why. The tacit recognition of the need for SM integration by way of system reform is still an anomaly in program management. By anomaly, we mean something that perturbs our paradigm (Kuhn,1970), or the most fundamental premises order our reality and can be resolved only by formulating a new paradigm. In this case, our data implies that, to achieve even the more modest systematic level of integration, significant changes might be required in not only the programmatic and organizational regimes of program management, but in the managerial and human ones to achieve the requisite totality of arrangements. For example, acquisition career development patterns might have to be built from scratch, cutting across customary military and civilian career–pattern constraints to achieve burn–in; managerial discretion might need to exceed the boundaries normally allowed in the public domain to achieve adaptive capacity, etc. Painfully apparent in complex situations like program management is that the system linkages extend well beyond the reach of program authorities. It is no exaggeration that major defense program acquisition systems include the Congress, for example; yet no one in the normally defined program management structure can exercise control over that reality. In the Air Force, it is generally acknowledged that implementation of

the program executive officer concept has not supplanted the previous chain of coordination, command and control, but has created an additional one — hardly the intended streamlining. Again, no PM can ignore or alter that reality.

The anomaly persists, then, not because those in the program management hierarchy lack will or even acumen but because they can't "get there from here." "Here" is an acquisition system where change is introduced on the margin, through new initiatives and programs; there is a wholly new system, or integrated total pattern of arrangements. Those who have enjoyed successful SM did not, to our knowledge, take a conventional program management system and streamline it piece-by-piece; and, in our opinion, are not smarter and don't work harder. Rather, they are situated in a program management context that, either by special program lineage or by built-from-scratch, achieved and maintained a streamlined system.

We expect some might see total quality management (TQM) as the remedy. While some concepts usually packaged under the TQM label, like attention to process, have underlying system properties, we are cautious about jumping on the TQM bandwagon. This is partly because it is being purveyed akin to a religion (with prophets, converts and heretics, requiring a profession of faith) but mainly because some aspects of the TQM faith lack a valid theoretical and empirical foundation. For example, a leading tenet of TQM is to transform the organization's culture. That is oxymoronic; culture, by definition, is a deep reality that emerges from within the social milieu, not a variable under management purview. To prescribe a culture change from the TQM pharmacy is management quackery.

Similarly, reorganization and other initiatives emanating from the defense management review, however bold and far-reaching, are unlikely to affect a streamlined process insofar as the revised features are not in concert with the residual features.

Unfortunately, we have no panacean prescription. True system reformations are rare, but we conclude from our SM findings that, for major acquisition programs to exploit the full advantages actually achieved via SM, such a face-to-face reformation would be required. Lacking that, SM will remain a tantalizing vision seen through a glass darkly.

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