

Defense Issues

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Infrastructure Reform Golden Goose or False Hope?

American businesses have reclaimed their position in the international marketplace by honing their competitive edge. Much of their success stems from a rigorous reform of their organizations, including their infrastructure—that is, processes, facilities, and resources. Many businesses have emerged from this process with leaner, less costly, more agile organizations.

DoD officials, faced with what some regard as a cumbersome, obsolescent, and expensive infrastructure, look enviously at the streamlined and less costly organizations that private-sector firms have developed. They hope that similar streamlining efforts in the DoD infrastructure can yield substantial savings, which could then be used to pay for other things, particularly modernization.

But how realistic is that expectation? Can a revolutionary restructuring of the DoD infrastructure pay big enough dividends to purchase modernization? Or would the effort produce a more efficient infrastructure but only modest savings?

Senior members of DoD, RAND, and the Center for Naval Analyses met recently to discuss these issues. They addressed a variety of strategies to make the infrastructure more efficient and, presumably, less costly, including the four strategies this paper focuses on: reengineering logistics processes, achieving efficiencies in education, outsourcing and privatizing functions, and implementing different budgetary approaches.

Two broad themes emerged from those discussions:

- First, getting savings of the scope needed to fund modernization from infrastructure savings will be difficult. Even if the savings could be realized, they will

not be realized quickly. Although many of the initiatives discussed at the conference improve efficiency and reduce costs, no single approach produces savings on the scale needed. Whether collectively they can deliver such savings remains ambiguous.

- Second, if there is any chance of getting the necessary savings, DoD will have to create a panoply of incentives and enablers¹ that will empower and cause the services to deliver those savings.

The following pages distill the key points from discussions of the four strategies.

REENGINEERING PROCESSES

Many of today's DoD logistics processes were developed primarily with an eye to supporting a large armored force fighting in Europe. This scenario disappeared with the Berlin Wall, and with it many of the assumptions underpinning those Cold War logistics processes. To meet today's challenges, logisticians need a system that emphasizes speed over depth.

More-streamlined logistics are not only more responsive, they are also more efficient, reducing the resources required to provide a given level of support. For example, improving the repair-cycle time—from when a piece of equipment breaks until it is repaired and made available to the user—can lower the requirement for expensive resources such as the spare parts kept on hand.

¹An *enabler* is a process, equipment, or anything else that makes accomplishing savings feasible.

Process improvement typically involves a three-step approach: defining the process, measuring it, then improving the process. Once an improved process has been implemented, the approach is applied to another process, so that striving for improvement is continuous. To improve cycle times for such key logistics processes as order and ship, repair, and stockage determination, some of the military services have implemented promising programs. These include the Army's Velocity Management initiative, the Marine Corps' Precision Logistics, and the Air Force's Lean Logistics.

For example, logisticians implementing Velocity Management reforms at one Army installation focused on dramatically reducing order-and-ship time (OST), the time required to order and receive repair parts from wholesale supply points (mainly Defense Logistics Agency [DLA] depots). First, they carefully defined the process, identifying each step involved from the original request to the delivery of the part to the local supply point. Then, they measured the process. The measurement was intended not only to understand current performance but also to help diagnose sources of poor performance and to monitor improvement efforts. Rather than using average times, the traditional metric, they analyzed and reported OST at the 50th (median), 75th, and 95th percentiles—metrics that revealed the process to be not only slow but also highly variable. Working with DLA and commercial shippers, they next set out to improve the process, eliminating some steps, collapsing others, and better coordinating still others. As Figure 1 shows, the median OST (bottom segment of a bar) decreased from 18 to 8 days over a few months after Velocity Management was implemented.

Logisticians immediately took advantage of the sharp reduction in OST. With quicker, more dependable resupply from the wholesale level, local stocks were reduced, saving money without adding risk or diminishing performance. Some of these savings were reinvested in broadening the local stocks by adding 1,800 lines, further reducing reliance on the slower (although improved) wholesale resupply—and still saving over \$10 million. Moreover, reduced OST lessened time spent awaiting parts, speeding repairs and improving equipment availability from 85 to 95 percent.

Reducing Risk

Improved processes must work better and faster in war as well as in peace. Large stocks were needed in the Cold War to help mitigate process risk. Can improved logistics processes be relied upon to deliver quickly the right support to the right places and thus avoid massive stockpiling as a hedge?

The resource reductions permitted by process improvement—particularly the reduction of stocks on hand—will require a significant change in organizational culture. It will be necessary to convince operational commanders that the improved processes do not place logistics support at risk. Demand uncertainty will always exist. Velocity Management and other process-improvement initiatives do not address that uncertainty directly; they work on reducing the uncertainty in the performance of the support processes.

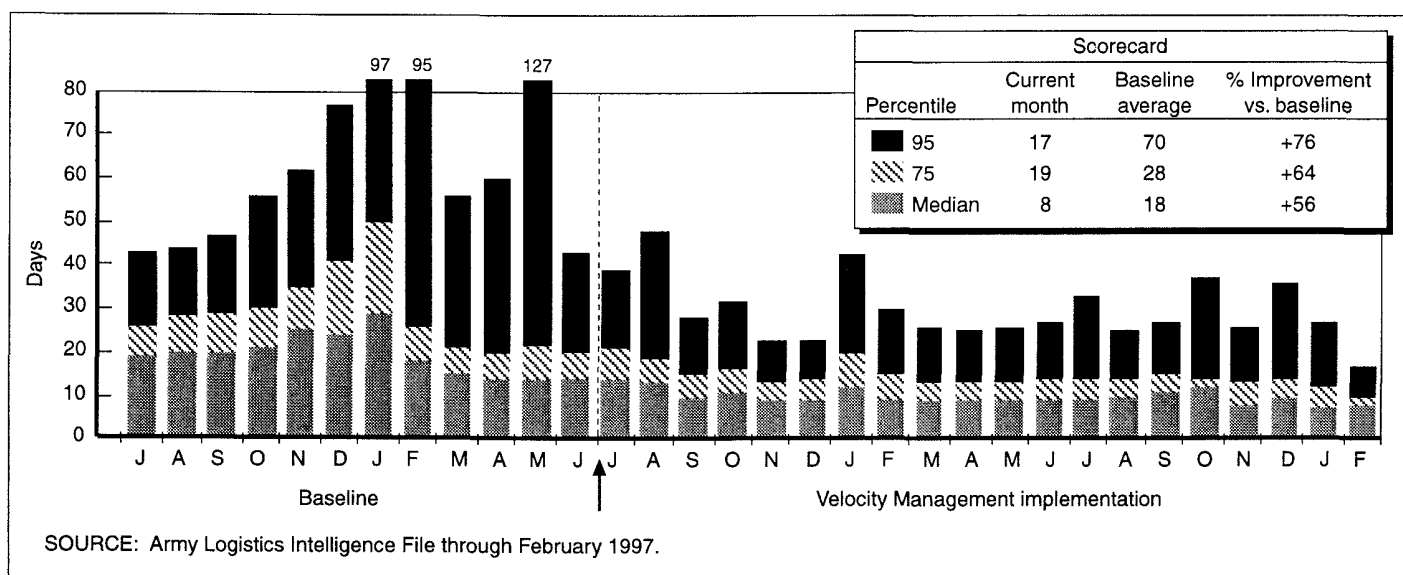


Figure 1—Improvement in OST at Fort Bragg

Achieving Savings

Faster cycle times enable inventories to be reduced without increasing risk, and these inventory reductions produce one-time savings. Personnel reductions may be possible, but, in many cases, these have already been assumed in future budgets. Also, some of these savings would be achieved by reducing the military personnel the services fight to retain. If positions move from infrastructure to other areas, the total bill to DoD remains the same. Garnering savings in facilities operations takes a major effort such as a Base Realignment and Closure (BRAC). In short, savings from reengineering logistics, while promising, could be limited.

To achieve any significant savings will require policymakers to find ways to provide incentives for reductions. This search could be difficult, because the process of generating savings can require sacrifices by those who do not benefit from them. For example, civilian workers in depots are probably not interested in any type of process improvement that eliminates jobs; therefore, their incentives to improve a process are negligible. Still, effective incentives are possible. DoD has learned how to provide them to contractors. It would seem that the same could be done with internal businesses—for example, having them commit to a given service for a given price. If it can be provided for less than that price, the provider retains some of the difference, and the retained savings become the incentive.

ACHIEVING EFFICIENCIES IN EDUCATION AND TRAINING

Making Training More Efficient

At first blush, it would seem that individual education and training would be a fertile area for savings, given the almost \$14 billion that active-component installations spend annually on training. It is fair to ask if it is necessary to spend that much money for the level of training received. Or could modest efficiencies result in large savings?

Ways of restructuring training include the following:

- Distribute it outside the institutional training base.
- Make it more efficient through technology.
- Consolidate courses or schools.
- Outsource or privatize it.

We look at the possible savings and risks of each way.

Distribute. Adding training at home installations and units can actually increase costs, because additional

resources are needed to accommodate the new requirement. Payoffs hinge on whether enough people or infrastructure can be eliminated in the training base to offset increases at home stations. If not, distributing training will not save money.²

Use Technology. More-than-ample opportunity exists to apply training technology (aids, simulations, etc.) to classroom instruction. Whether adding technology lowers costs hinges on two things: complexity and use. If the technology is complex, applying it can be more expensive. A study on distributed training showed that the more sophisticated the technology (e.g., interactive TV), the more the cost increased. Relatively simple technologies, such as paper-based exercises, could yield savings.

Consolidate. Ongoing research suggests that consolidation, e.g., reducing the number of locations that engage in basic infantry training, will probably yield savings. Redundancy and high resource use flag the most likely candidates. However, too much consolidation may not be cost-effective. It can drive up operating costs, including transportation costs and temporary-duty pay, or it can add to fixed facility costs to the point where it will offset savings.

Outsource/Privatize. It may be possible to gain savings through divesting some functions and putting more contractors into the labor mix. And some training-support administrative functions seem to be likely candidates, as does training development.

Changing Depth and Pacing of Training

It may be that the services train some subjects too thoroughly or that the training is too specific. For example, electronics is electronics, and more-generic training would enable greater outsourcing, which could lead to personnel savings. It would also seem that the services should be able to train faster with self-paced or computer-assisted training. Shortening course lengths could also yield significant savings.

Two arguments are typically advanced against moving trainees through courses faster. The first argument is that the services do not have the processes to accommodate those who finish early. The second is that acculturation occurs in the institutional training base and shipping people out early would reduce that. The first problem would seem manageable. Sending students who finish

²Distributing training to home stations does not save substantial resources. It reduces the number of topics included in the Programs of Instruction followed at institutional training sites. Experience has shown that a new subject will be added to replace each subject shifted to home-station training. Thus, no resources are eliminated.

several weeks early to their new units should not pose many difficulties. Since most acculturation occurs either in the basic phase of training or in the units, the second argument does not seem relevant. Sending those who have completed basic training to units sooner should enhance acculturation.

OUTSOURCING

Common wisdom today holds that conducting sourcing competitions—contests between current government providers and bidding commercial providers—leads to lower costs, chiefly by reducing either the size of the labor force or the compensation rates. Commercial providers historically have won about half of these competitions—that is, the competitions have led to outsourcing. As a result, a substantial increase in sourcing competitions could fundamentally change the DoD workforce, particularly if the rules were changed to permit commercial providers to win more of the competitions. In FY 96, contractors supplied 24 percent of the Air Force’s commercial-activities workforce. If the proposed goals of the Defense Science Board for outsourcing were achieved, by the year 2003 contractors would account for 79 percent of the Air Force’s workforce engaged in what are designated “commercial activities” (see Figure 2).

Achieving Savings Through Sourcing Competitions

The winning bid in a cost competition must promise savings. However, savings in one activity can raise costs elsewhere. For example, when a commercial provider

wins the competition, the contracted function may appear to be cheaper; however, government workers have protections, so they move elsewhere in the government, typically taking their pay and grade with them. When they move, they displace other government workers who are more experienced and less well paid in the job they get bumped from. Thus, the savings might be less than appear in a simple before-after comparison of the cost of the contracted function. Future displacements may cause more migration.

Also, the process contains inherent disincentives. The government workforce participating in the cost competition is the one that may be displaced. Thus, workers have no incentive to participate positively in an effort to outsource. Issues of pay, job security, and portability of pensions affect attitudes about outsourcing, leading some organizations to drag a cost competition out until time limits have expired. Before time limits were imposed, some competitions took as long as 8 years. A possible remedy is to pay to have the competition studies done by a third party.

Some analyses estimate that, in the 1970s and 1980s, the DoD’s use of A-76 sourcing competitions generated anticipated savings of about 30 percent (of the costs of the original government provider of the services).³ Savings at such a high rate could obviously free up significant resources for modernization if sourcing competitions were conducted widely. In recent years, however, the DoD has conducted very few such competitions, and it is not clear that it has the capabilities to begin quickly conducting many more.

Strategic Sourcing

If it decides to conduct sourcing competitions on a large scale and at an accelerated pace, DoD needs a strategic approach to outsourcing—a framework for continuing, long-term change. And it should identify early the actions that could build momentum.

The criteria and process used to conduct and evaluate sourcing competitions are also important. Today’s criteria focus on the cost of the current provider of the work, whereas commercial firms look at costs over a longer term. The Office of Management and Budget’s A-76 cost-comparison process for selecting a contractor is more adaptable than it might at first appear, because numerous waivers of the cost competition are available.

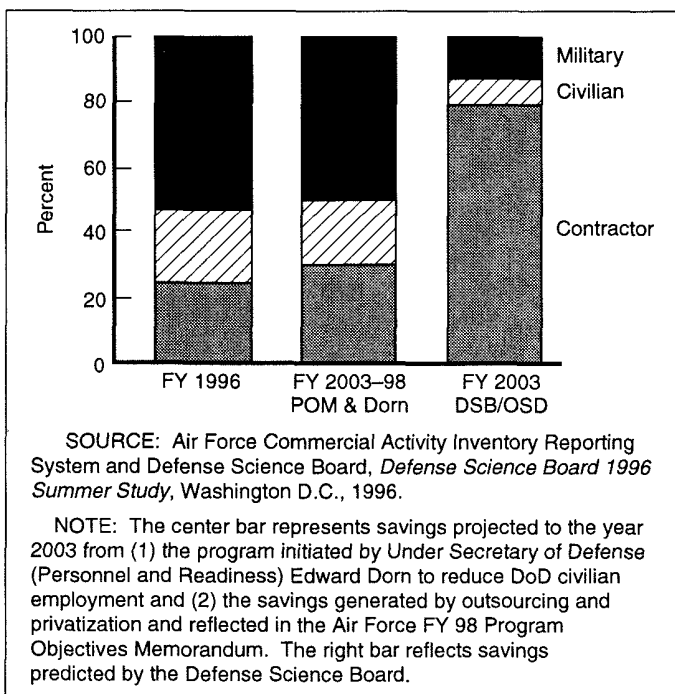


Figure 2—Estimated Increases in Outsourcing

³A-76 refers to the Office of Management and Budget circular governing such competitions. Alan J. Marcus, *Analysis of the Navy’s Commercial Activities Program*, Alexandria, VA: Center for Naval Analyses, CRM 92-226, 1993.

Risks and Rewards: Commercial Trends in Outsourcing

Commercial experience with outsourcing has demonstrated both risks and rewards. The potential rewards include lower costs, better performance, an enhanced focus on what the organization does best, and more-rapid access to innovations. However, the risks can be considerable. For example, recovery time in replacing a source of goods or services can be so significant that it affects operational capability. Of less concern, but still a risk, are the loss of real-time control, inadequate investment in specific assets, and the loss of critical skills. It may be difficult to recover skills that have been outsourced if the decision is made to return a function.

How the outsourcing is done affects the size of both the risks and the rewards. For example, the commercial sector is more interested in contracting for integrated bundles than for specific components. (However, bundling components of unlike functions—e.g., electronic and mechanical—may not be a good idea.) Thus, if the contract can be written from this perspective, it may be possible to get more service for less cost than if specific components were contracted individually.

Also, contracts should focus on outcomes, not on process; that is, they should specify the “what,” not the “how.” This approach accords the contractor the greatest flexibility to use innovation and management skill to deliver the desired result. It also provides the greatest opportunity for the contractor to make a profit, and thus contains a built-in incentive. Furthermore, commercial firms want longer relationships. They are reluctant to invest in equipment or personnel without some assurance that the contract will run long enough for them to recoup their investment in what may be unique equipment or skills.

Contract design can provide incentives if each contract is written on a case-by-case basis. It takes innovation, education, training, and rewards to produce the right types of contracts. Well-written contracts, coupled with effective communications, continuously updated cost and performance metrics, gain-sharing, and goodwill lead to continuous improvement in cost and performance.

Outsource Housing?

Many areas have been targeted for possible outsourcing. One candidate with a large financial effect on infrastructure is housing. Providing housing is expensive, and it might be possible to generate large savings by turning it over to a contractor. However, the best decision might be service-specific. For instance, three-quarters of the Navy population lives in civilian housing, a larger fraction than in the other services, and almost all military housing is located off base. Considerable savings might be generated by privatizing Navy housing—savings that could offset the out-of-pocket costs typically required to rent civilian housing. The other services house a higher fraction of their personnel in military housing located on base. Privatization of this housing could be more difficult to arrange, and gradually closing military housing units could be seen as a decrease in DoD’s commitment to the quality of life of military personnel.

An obstacle to a private-sector firm taking over government housing is the large backlog of maintenance and repair for government housing. It is unlikely that a firm would simply assume this burden, so any savings might be reduced.

IMPLEMENTING DIFFERENT BUDGETARY METHODS: A PROPOSED APPROACH TO CUTTING INFRASTRUCTURE

It seems unlikely that the QDR will find changes that yield savings large enough to fund modernization. How, then, could such savings be realized? In theory, the annual budget process could deliver them, but it has not done so to date. An organizational change is required. Since it is unlikely that adequate reductions will flow from the bottom up without change, DoD must provide the services with incentives to make the cuts. In this case, the incentives would be to allow the services to retain some realized savings as a way of paying for service-modernization programs. Providing the services guaranteed savings would limit DoD’s flexibility. However, in this case, it may be a choice between some savings and none.

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