



**STRATEGY
RESEARCH
PROJECT**

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

ACQUISITION REFORM: WHERE TO NOW?

BY

**COLONEL WALDO F. CARMONA
United States Army**

19971006 145

DTIC QUALITY INSPECTED

**DISTRIBUTION STATEMENT A:
Approved for public release.
Distribution is unlimited.**

USAWC CLASS OF 1997

U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050



UNCLASSIFIED

USAWC STRATEGY RESEARCH PAPER

ACQUISITION REFORM: WHERE TO NOW?

by

Colonel Waldo F. Carmona
United States Army

Dr. Jerry Davis
Project Advisor

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013

UNCLASSIFIED

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

DISTRIBUTION STATEMENT A:
Approved for public
release. Distribution
is unlimited.

ABSTRACT

AUTHOR: Waldo F. Carmona (COL), USA
TITLE: Acquisition Reform: Where to Now?
FORMAT: Strategy Research Project
DATE: 15 May 1997 PAGES: 33 CLASSIFICATION: Unclassified

The traditional military-specific approach to developing and applying advanced technology is rapidly becoming unaffordable. Yet even as R&D resources continue to shrink, the U.S. military's need to maintain cutting-edge capability has become more acute as potential future adversaries acquire sophisticated weaponry and build their own technological capacity. The private sector has a long history of designing, developing, and marketing innovative technologies in a cost-effective manner. It is crucial that the Army free itself of dependence on the high priced, 12-14 year development-procurement cycle; increase its access to the products and processes that constantly emerge from the competitive commercial environment; and exploit all of the benefits generated from the current thrusts in acquisition reform. The overall goal of this paper is to propose a way of expanding the Army's options for tapping into the best available technology sources by exploiting the tools already available through current acquisition reform, and building upon previous efforts to form R&D collaborations with commercial firms and academic institutions.

TABLE OF CONTENTS

Introduction.....	1
Road Path to Success.....	5
General	5
Problem Areas and Recommendations	6
Leadership	6
The Bureaucracy	8
Federal Acquisition Regulations (FAR) Reform	11
Oversight.....	13
Organizing for Innovation.....	17
IBM Case Study.....	19
Choosing the Right Organization.....	21
The Consortium	22
Conclusions.....	27
Recommendations.....	29
Bibliography.....	31
Endnotes	33

LIST OF ILLUSTRATIONS

Figure 1 Defense budget FY 85 to FY 97	5
Figure 2 The current acquisition process	11
Figure 3 Finding the right degree of centralization	18
Figure 4 The science and technology continuum	23
Figure 5 The partnership	24
Figure 6 Budget trends since 1955	25
Figure 7 Partnership core competencies	26

ACQUISITION REFORM: WHERE TO NOW?

I. INTRODUCTION

U.S. history shows that in peace time, the Congress has always down-sized the Department of Defense (DOD). The economic position, budget, of the DOD has been on the decline for the last seven to eight years. With the decline of the budget, the trend has been one of consolidation and streamlining. The result has been an increase in adversarial competition between the services and even more detrimental, adversarial competition within the branches of the services for the reduced dollars available.

In the past, compliance with the law, applicable regulations and guidance directed to us, compelled us to do acquisitions using a technique I call the cookie mold technique. That is, all acquisitions, regardless of scope or requirements, must look alike and be executed in the same manner. Regardless of the requirement, we will make sure that it is just like the ones previous, because those have been previously inspected and blessed and correct. Inspectors, whose job was to provide oversight and additional guidance, frequently did, reinforcing the cookie mold approach, regardless of whether it was truly required or how inefficient it made the process. The helpful guidance of inspectors was given additional credence by the fact that upon their return, they were certain to check to see if their suggestions had been properly initiated. The result was a system that continually became more rigid and autocratic, unresponsive to both the workers needs and the customer, our soldiers.

When we look at the Goldwater-Nichols Act and the recommendations of the Panel 800, we must realize that the establishment of "Jointness" and the Acquisition Corps is a double-edged sword. The main tool for improvement, the establishment of an Acquisition Corps, in the acquisition and procurement business is provided to the services, but very subtly it provides the justification for the establishment of the "Purple" Acquisition Corps at the Office of Secretary of

Defense (OSD), thereby creating the potential of removing the individual services from direct acquisition and procurement functions in the future.

If acquisition reform is to be successful, and it is my position that it must or others will be performing it for us, the system that executes reform must be committed/pledged to continual improvements and the vision that a metamorphosis must occur. Old paradigms must be shed and change embraced, because with change, comes the opportunity to succeed. Yet, in a time when change must be mandated for survival, we must remember what Niccolo Machiavelli stated in 1513, "The innovator makes enemies of all those who prospered under the old order, and only lukewarm support is forthcoming from those who would prosper under the new."ⁱ

Mathematically, theory shows that evolution, change, catastrophes, and chaos are all part of real life. The twists in non-linear mathematics are currently re-writing the dominant theories of physics, chemistry, and genetics since they all grapple with evolving and turbulent processes. Collapse and chaos are not, however, just limited to the sciences. The collapse of the Soviet Union and the political and economic chaos in its aftermath demonstrate that modern civilizations, economic strategies, and bureaucracies are just as vulnerable. Economic change and creativity are required to avoid chaos and collapse. Self-organization and evolution are the key ingredients required for success in the future. In industry, large vertically organized organizations (Sears, General Motors, International Business Machines) are all falling apart now. New small specialized corporations are now emerging and will be the basis for jobs and prosperity in the future.

The U.S. economy, and with it the DOD budget, are currently experiencing a turbulent transition. In industry, new corporations, markets and economic institutions are emerging. In the government, we are "reinventing government." Out of the present chaos, a higher order of doing business is evolving for both sectors. What will the future bring? I submit that there is no limit to the potential the future will bring for those institutions that are capable of embracing change and learning how to work effectively within the new framework. We must always remember that the old and the new are always at war. The system must have enough stability to keep it from falling into anarchy, yet the system must not be rigid and unresponsive. Too much change is as

destructive as too little. Finding the right balance is the key to success. The interment of change is vision and technological creativity. Only the organizations that are willing to change, willing to challenge the old paradigms and have vision will survive. Those that do not will fail and disappear.

In our effort to reinvent ourselves we must remember that economy of scale, i.e., how big, is not nearly as important as economy of scope, i.e., a focus or aim. It is my belief that the keys to success are not the building of additional bureaucracies, the stove-piping of functions and simple consolidation. But that success in true reform lies in creating a new philosophy and business climate, one of trust between the government sector and industry. Greed, graft and corruption are always factors that must be considered, guarded against, and clearly never tolerated. But the acquisition system needs to reduce its dependence on oversight as the tool and means for determining compliance with the law and the additional guidelines provided by sub-organizations. Success lies not in expanded oversight, but in the re-institutionalizing of leadership, trust, responsibility and accountability into the acquisition system down to the organizational level. We must do more than "talk the talk" if reform and the transformation is to be successful.

We are currently in the age when technology shows its biggest promise, yet the DOD budget is least likely to support it. New aims and innovation cannot be successfully generated within the confines and focus of the old acquisition system, its paradigms, and its inherent inertia to stabilize and maintain the status quo. To maximize what we can reap within the budgetary constraints dictated to us, the acquisition system must become "lean and mean" and dedicated to the ideal of always improving the process and reducing overhead. We must stop doing things in the same old ways and remember that the speed of acquisition is inversely proportional to the number of people involved. Never has what Lord Rutherford, Secretary of War for Great Britain, stated been so true, "We have run out of money, therefore we have to think more clearly."ⁱⁱ

The reduction of the DOD budget is real and will continue to be a fact of life in the future. Our society has unsolved problems. Until these inadequacies have been overcome, the task of overcoming them will have to have first claim to our resources. At Valley Forge, the Continental

Army fought and won without the shoes they needed and did not get because Congress did not fund them. While some of that tradition lives on, all is not lost as long as we as a service and the Army Acquisition Corps (AAC) can focus, identify and articulate our requirements, reduce the overhead and oversight of our current bureaucracy, and ensure that the requirements of our soldiers are not ignored by a bureaucracy dedicated to self perpetuation.

One of the keys must be to control the parochial interests of the Branches and the bureaucracy within the Army. The Army must, within the budget available, focus on what the Army as a whole truly needs to fight and win in the future. I am optimistic that the Army senior leadership will focus the requirements process and identify what the Army needs. This paper will therefore not address the requirements process, which in itself needs reform, but will concentrate on how an AAC organization can, with the right leadership and support from the senior leadership, truly streamline the acquisition process, reduce overhead costs, i.e., conduct business more efficiently and responsively, and provide the soldiers the tools they need to successfully execute the nation's requirements.

II. ROAD PATH TO SUCCESS

A. General

The National Performance Review (NPR), directed by Vice President Al Gore, established initiatives designed to reinvent government. One of the key early initiatives was the creation of the concept of establishing a Reinvention Laboratory where agencies were permitted to experiment with new management techniques designed to enhance government effectiveness and efficiency. Under this initiative, the Service Secretaries were delegated the authority to designate Reinvention Laboratories. Under the procedures and guidelines established in 1994, Reinvention Laboratories are encouraged to conduct government business in new ways and are delegated limited authority to waive obtrusive regulations and instructions that impede business effectiveness and efficiencies.

Unfortunately, the geographic and cultural distance between the White House, the Service Secretaries, and those executing the new procurement initiatives attenuates the impact of the top-down policy directives. Clearly, lower level regulations, directives and instructions that repeat or interpret the guidance, stated at the top, do little more than provide systematic barriers to the empowerment and change required to succeed at acquisition reform. In the past, government funds and requirements have been the impetus for technological growth in industry. The reality of the Department of Defense budget over the last twelve years is that the DOD budget has and will continue to decline, as shown in Figure 1.

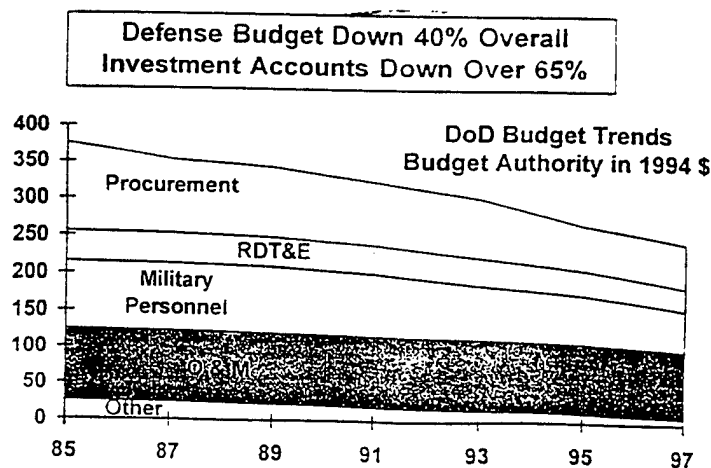


Fig. 1. Defense budget FY 85 through FY 97.

The overall Defense Budget, since 1985, has decreased 40%, with the investment accounts down 65%, and the cost for personnel and Operational and Maintenance accounts, even after a significant reduction in personnel, increasing from approximately 53% in FY 85 to 70% in FY 97. Clearly the personnel requirements of the Army and the declining budget demands changes in the way in which we do our acquisitions business, or the American people and the U.S. Congress will rightly take the privilege to develop and procure our own weapon systems away from us. Five primary barriers stand between the implementers of policy and success: leadership; FAR reform; the procurement bureaucracy; government prescribed procedural guidelines imposed by the audit and oversight institutions; and, an organizational re-structure designed to save money in the short term and stifle innovation in the long term.

B. Problem Areas and Recommendations

1. Leadership. In industry, corporate competitive success is increasingly hinging upon the effective management of innovation. The leader's role in the innovative organization is as a catalyst and facilitator, not as an all knowing despot. Thus the leader may initiate the chaos generation and create a context for selecting the relevant people, sometimes arguing with them, but must also help them to overcome barriers and accelerate the realization of the organizational vision. The key then, is not just to create chaos, but to provide a vision and a strategy tailored to the organizations and its customers' needs, and to create an environment in which new information can emerge from the chaos. For innovation to flourish, the chaos cannot be so overwhelming as to overload the organization's capability to create new meanings and understanding, yet it must be severe enough to create activity and synergy within the organization.

In corporations or government bureaucracies, workers passively awaiting orders ensure inertness and sluggishness in the organization's functioning. The devolution of initiative and responsibility is a requirement of vitality for organizations. Most people in most organizations are more stale than they know, more bored than they care to admit. All too often it is because they have not been encouraged to use their own initiative and powers of decision. And if they are not

expected to use their decision making powers, they are off the hook of responsibility. That is the damaging element of the status quo bureaucracy.

Unrelenting autocracy and micromanagement down the chain of command undermines initiative. It says by implication that your responsibility is not to identify problems beyond those implicit in your orders, not to think about solutions. Wait for the next order! If something goes wrong that is not strictly within the scope of your orders, you need not worry about it. Followers who are passively awaiting orders have lost much of their capacity to be of help. It is a loss that we in the AAC cannot afford, for it is in the very nature of a large-scale organization that its only hope of vitality is the willingness of a great many people scattered throughout the organization to take the initiative in performing leader-like acts, in identifying problems at their levels and solving them. Without that, the organization becomes another of those sodden, inert, nonadaptive bureaucracies that are the bane of modern corporate and governmental life—rigid, unimaginative, and totally unequipped to deal with a swiftly changing environment.

An organization that cannot create new ideas and meaning is best characterized as a stagnant bureaucracy. Typically, these organizations are managed, not led, on the basis of artificial standards such as return on investments, profit center analysis, or slogans as “being number one in everything we do.” These synthetic rules or standards are often mistaken for vision and the employees are then motivated not by leadership but by fear. In such organizations, the short term fix and risk avoidance strategies will prevail at the worker and middle management levels. While this type of management may meet short-term goals, it will clearly stifle innovation, commitment, job satisfaction, risk taking and empowerment.

The task of the leader then, is to provide an environment in which innovation or information creation can occur synergistically, then facilitate its transmission throughout the organization. Old, rigid, bureaucratic organizational structures and old leadership methods do not provide sufficient flexibility, vision or robustness to cope with the challenges of change. Too often, the constituencies within the established bureaucracy have a stake in stability, and their legitimate needs can produce rational resistance to change. Yet, the key to organizational success is

the ability to bring alive in individuals, all down the line, the kind of capacity necessary to contribute and share in the leadership task. That requires leaders who can delegate responsibility, who consult and listen, who respect human possibilities, who help individuals to grow and to remove obstacles to effective functioning. To encourage innovation, a leader must reward success yet allow soft landings for failure, allow for deviations from the plan, manage change, and yet guide and coordinate so that the vision and strategic direction is maintained. What is needed then is a climate that is delicately balanced, one that does not let people off the hook too easily, yet does not stamp out risk taking. We must remember that when we do not have any failures, chances are that the goals set are too easy. Obviously, those who fail should not be jailed or their careers ruined. Their personal career costs for failing cannot be too high or they will never have the courage to choose the path that might fail. Without genuine risk taking, innovation cannot flourish. Finally, all established procedures created must be re-evaluated, revised and reconstructed to create a permanent self-renewal process.

While a strategy du jour is not appropriate, the command climate must be flexible and provide both stability and room for change, freedom to be innovative and direction that articulates the "big picture." Flexibility, fast response, and the ability to adapt to ever changing circumstances are now more important than in the past. Leadership is necessarily concerned with group activity. But leaders who fail to leave place for individual creativity are doing the organization no favor. It is time for not just the workers to take risks, but for those in leadership positions to step up, accept change and the risk of failure that comes along with being innovative. In today's world the words of Caryl Haskins are certainly applicable: "It is the gifted unorthodox individual in the laboratory or the study or the walk by the river at twilight who has always brought us, and must continue to bring to us, all the basic resources by which we live."ⁱⁱⁱ

2. The Bureaucracy. Since the founding of this country, the government procurement system has been evolving into a bureaucratic maze with little if any incentives to be innovative or take risks. The disincentives however abound. The most amazing part of the whole acquisition process is the fact that it has worked. It would be unfair and less than honest to imply that the

current acquisition system has not fielded superb weapon systems and equipment and given the U.S. technological supremacy of the battlefield. But clearly, if we are not parochial, we must also admit that the current system under which we developed those superb weapon systems and equipment took at least 3-4 times too long to develop and cost 4-6 times too much.

In response to the NPR, DOD and senior leaders have attempted to streamline and consolidate organizations within DOD in order to reduce overhead and "fix" the overly bureaucratic, inefficient current acquisition system with "innovative acquisition reform restructuring and consolidations" which were at the same time driven with requirements to reduce infrastructure and overhead costs in the near term. Can innovative reform initiatives directed from the top succeed within the current organizational maze, acquisition cultures and mind-set of the intermediate bureaucracy? I propose that the answer is no. The bureaucracy likes a stable system, where procedures are stable and the rules are clearly known and followed. To them, change is not welcomed and should be controlled as best as possible.

As dollars dwindle, I propose that bigger, vertically organized organizations and simple consolidation, in order to meet required end strength, and near-term cost savings are not always better. That in most cases all it succeeds in doing is forming a stronger, more stable inefficient bureaucracy. During efforts to consolidate the questions should be: who contributes? What do we really require to provide our soldiers the best equipment in the world? Do we truly need all of the oversight that is currently in place? I for one would propose that we clearly need more workers and far fewer oversight organizations.

An organization must be managed. The larger the vertical organization, the larger the inertia to change from the norm, and the more difficult it will be to manage it for optimization. Additionally, organizations must have aims and core competencies that the Army needs. Without aims and constant commitment by its leadership to constant improvement, an organization does not change. Best efforts, hard work, new organizational approaches, computers, automation, and gadgets will not generate innovation and reform by themselves. The middle bureaucracy within DOD, and specifically within the Army, is in a stable state and only half heartedly supports reform.

The tradition entrenched in the middle bureaucracy is doing all that it can to ensure that today's Army Acquisition Corps is an image of the old norms. To achieve reform, the change required is one of transformation and metamorphosis for the government and industry, not merely patchwork of the current system.

If the acquisition system is so ineffective and inefficient, how does it work at all? The answer is that it succeeds in spite of itself due to the dedication and professionalism of the people executing the programs who refuse to buckle under and allow the bureaucracy to make them ineffective. The problem with top-down directives is that the bureaucracy is uncomfortable with change and those senior middle level bureaucrats who are empowered to waive obtrusive requirements that impede business effectiveness and efficiencies, are part of the old guard who built their power and status on the old paradigms of how to conduct government business, and have little to no impetus to tear down the paradigms that gave and maintain their status and power. As Secretary of Defense Perry stated, "The resistance to change in the acquisition process is substantial. There is resistance in the Congress, there is resistance in the Defense Department, and there is resistance in industry. So reform is a very tall task to work on."^{iv} Tall task to work on? Definitely yes! Impossible task? Not with a leadership committed to change, the current reform initiatives, and by working from outside the current bureaucracy that wants to maintain the status quo. The influence of the middle bureaucracy must be diminished, and the true empowerment of those performing the work must be significantly increased. The senior leadership must commit to trusting the PMs and organizational commanders that are doing the work.

Currently, the U.S. has the ninth largest standing Army in the world. With the continuing decline in the Defense Budget, the continuous drawdown of the Department of Defense, and the ever accelerating pace of technology development, the Department of Defense can no longer accept the status quo performance of a procurement bureaucracy that takes 10-14 years to develop a new weapon system. Administrative, development, and procurement cycle times must be reduced. The ubiquitous Ford Phased Program Planning System, that divides development projects into hundreds of minute tasks with dozens of review points, and encourages decision making by

committee must be eliminated. Rules and business practices which stifle initiative and effectiveness must be altered. The middle bureaucracy will only change after it is shown that reform and the reinvention concept does indeed work, and even then, it will change grudgingly.

3. Federal Acquisition Regulations (FAR) Reform. Perhaps one of the major problems with the current acquisition system is the attempt to generate legislative solutions to any mistake that has been made in the last 40-50 years. Anytime that an honest mistake has been made, the system has attempted to ensure that the mistake is not made again by enacting more laws and regulatory guidance. FASA and FARA have gone a long way in allowing for streamlining. We must however remember that even though the FAR system is significantly flawed, we cannot wholly blame the FAR. The FAR is a compilation of statutory, executive and regulatory requirements that burden the contracting process with instructions that describe how the contracting process should be conducted from start to finish that clearly needs some reform (see Figure 2).

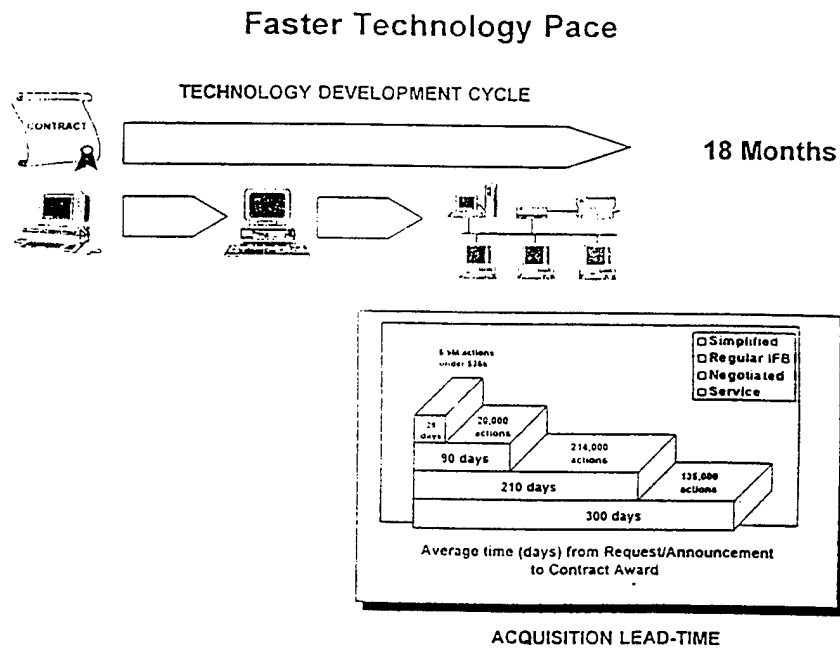


Fig. 2. The Current acquisition process.

Why change the acquisition process? Quite simply, the rate at which technology is currently being developed, is far outpacing the time required for the government to develop and purchase the technology. There is no question that FAR reform is required and that government procurement should be made less cumbersome, less complex, and less unique. However, no amount of reform will ever make the government system "just like" the commercial counterpart. Unlike the commercial counterpart, the government is constrained by requirements for full and open competitions, accountability for tax payers dollars, oversight requirements and political and legislative constraints. In short, the government contracting methods will never be as informal or judgmental as those in the private sector.

The problem is that the FAR is not just a document; it is a system that has been translated by a bureaucracy into inefficient rules and guiding principles that are cumbersome and excessively rigid. The intrinsic rigidity of the FAR stems more from its excessively interpreted language and lack of initiative within the bureaucracy than from the language itself. While no one could assert that the FAR is a perfect or even a good document, I propose that rewriting the complete FAR would be disastrous and that merely changing the language of the FAR without simultaneously addressing the underlying process of the bureaucracy and its audit and oversight culture would have limited, if not adverse, effects on our current acquisition system.

Rather than trying to completely rewrite or replace the FAR, the goal of acquisition reform should be to develop a contracting process that allows for and encourages suppliers to provide quality control, fair and reasonable prices, increased competition, and good management practices. Government objectives should be to insure that the goals are met, not to dictate to government suppliers how they should be met. Finally, government suppliers should be allowed to determine how to meet government objectives and goals using their own operating and management systems.

The ultimate goal of FAR reform, in my opinion, is frequently seen as facilitating the procurement of commercial items. The underlying objective of FAR reform is not just to procure commercial items, but rather to access commercial capabilities. To achieve a nationally integrated manufacturing base, with the government capable of exploiting agile and flexible manufacturing

approaches, the acquisition system must be able to facilitate the buying of government unique items and services from the commercial sector. The philosophy however, is easier to state than to execute. The barriers of the government bureaucracy, contracting offices, oversight and audit agencies, all impede change. These barriers will not be eliminated easily or rapidly as long as the process for change is controlled by them. Consequently, to nurture change, the approach of empowering organizations to experiment and change the old paradigms is the road to true reform.

From 1926, when Congress passed the Air Corps Act, to the present focus brought about by NPR with the passing of FASA and FARA, FAR reform has been an issue. While never before has as much reform been legislated successfully, if we are to truly exploit the changes generated, the agenda of reform must be broadened to include elimination of process barriers that impede progress. Empowerment cannot work when the audit and oversight culture is permitted to dominate the process, creativity, and flexibility of the procurement system.

One approach to resolve the barriers erected by those who want the status quo is to allow Commanders, PMs, and Contracting Officers greater authority over the procurement process, decriminalize the contracting process, and allow for greater rewards for innovative approaches. New processes such as joint synopses/solicitations, oral proposals and presentations, electronic proposals, performance oriented requirements, simplified acquisitions, electronic contracting and awarding on initial offers are currently authorized but rarely implemented. Additionally, concepts that reduce overhead costs such as the use of debit cards, paperless procurements, single process initiative, just-in-time contracting (stock levels can be reduced if what is needed can be provided when required) need to be evaluated. For reform to flourish, crossfunctional personnel, auditors, oversight, technical and contracting personnel should have responsibility for overseeing the procurement process with the Commander/PM. The final decision making responsibility, authority and accountability for decisions however, should ultimately rest with the Commander or PM.

4. Oversight. In addition to a bureaucracy that likes stability, there are two other major obstacles on the path to true reform; audit and oversight culture. Current audit and oversight

guidelines tend to prescribe the government and the contractor's organizational and management culture and structure. Although the suggested targets and "how-to guidelines" have little basis in the FAR, the targets and guidelines stated by the audit and oversight bureaucracy is one, if not the, key determinate of the current inefficient contracting process.

DOD last year spent approximately \$6.2 billion on travel. Approximately \$3.0 billion of that was on travel; the other \$3.2 billion was spent on auditing and oversight. In industry the auditing and oversight overhead is approximately 8%. Given the barriers to empowerment that the audit and oversight branches generate, it is amazing that the system can work at all. Clearly there are few incentives to encourage more innovation, but the disincentives abound. The oversight system, both military and civilian, does not reward acceptance of risk or the exercise of initiative. Error or a failed procurement could and frequently does result in a black mark against the individual and the possibility of a criminal investigation. Indeed, acquisition, and specifically contracting, is one of the very few functions in federal government in which employees may be criminally liable for errors they make on the job.

Moreover, contracting officers and program managers do not work in isolation. They are frequently "second-guessed" by oversight and audit guidelines that steer their decisions and limit their flexibility. The excessively zealous audit and oversight bureaucracy tends to drive contracting and acquisitions strategies in reactionary ways. Auditors for example, have no obligation to lay out a basis for an audit opinion, but the FAR requires that program managers and contracting officers justify any departure from that opinion. Further more, unnecessarily prescriptive audit and oversight guidelines tend to force specified organizational structures and procedures that may be, and frequently are, at odds with "best commercial practices." Reform of the procurement system must overcome the hurdle of the audit-driven bureaucracy. This problem was clearly highlighted in recent interviews with DOD's two top inspectors, the DOD Inspector General and the DOD Deputy Inspector. In the October 1996 edition of *Program Manager* the DOD Inspector General (DODIG) tried to show how her department was reforming the way it approached auditing,

investigations, and oversight. When asked about the possibility of the DODIG working as part of the Integrated Process and Product Teams (IPPT), The Inspector General stated,

I don't know that we should be part of the management decision making team. We are more of an overseer and an advisor...I do not know that the DODIG should be an active participant in making management decisions when we have to do subsequent oversight on the effect of those decisions.^v

On the subject of a Program Manager's use of good judgment, and the reform philosophy of risk taking as opposed to risk aversion, the Inspector General stated,

When I hear talk about more risk taking, I just hope that we do not go from one extreme to the other. I realize that over the years the acquisition process had become so overburdened with rules, and regulations, and processes, and paperwork that it was not very efficient. Clearly, I am very supportive of doing away with some of that and getting down to the basics so we can accommodate risk taking where it is reasonable and makes sense. There are ways that Program Managers can do that. As I said, however, we have to practice moderation as we do this—we need to have some reasonable balance....My own view comes from years of oversight of federal programs and years of handling criminal prosecutions. I have done a lot of work on fraud cases—criminal fraud, including abuse of government programs. The one thing I have learned over the years is that if you have a lot of government money available in a program—I don't care which department it is in—and there is the belief in the public domain or in the minds of the people who deal with that program, that controls are very lax and there is very little oversight, you are going to have problems. Some people are going to come in and try to take advantage of that program.^{vi}

On the issue of commercial specifications and standards, commercial products and services, and commercial practices the Inspector General stated,

I'm somewhat concerned that some people may think that commercialization is going to solve everything and eliminate all the problems. There are still potential areas for problems even with commercial products. For instance, we do a lot of work now on this whole issue of determining what requirements are going to be. And that is going to be true even if you go commercial. Somebody is going to be looking at whether the decision to use this particular commercial product or this type of product makes sense, and whether it is really going to get us to where we want to go. So we are still going to be looking at that. We are still going to be looking at the delivery and performance of government contracts, even if they're commercial. Finally, even in the commercial sector, large companies do require certain cost and pricing data. So you're still going to have issue of reasonableness and accuracy of cost and pricing. Frankly, I think we may be focusing more on different aspects of the process, but the workload will pretty much be the same.^{vii}

In an interview with *Defense Magazine*, based on a prepared statement to the House Small Business Committee, the Deputy Inspector General of DOD stated,

Acquisition reform, especially much of what is being proposed in this second round, is carrying out a long-standing industrial or supplier agenda to curtail or eliminate many of the key safeguards that have been built into the United States procurement process over the last 200 years...Too many procurement reform proposals related to commercial products are based on the faulty assumption the government imposes special requirements on vendors that are different from those imposed by the vendors on their own commercial suppliers.^{viii}

From these articles it appears that the DODIG is for reform as long as it does not include changes to the Competition in Contracting Act, i.e., do not change the proposal system, the use of qualified bidders list, do not change the fee guidelines on government contracts, do not loosely define the terms "commercial item" or "commercial service," waive cost accounting standards for commercial items, eliminate the Truth in Negotiations Act and maintain the auditors required to inspect. In short, their view is that FASA and FARA are flawed and should not be used because they allow the Program Managers and Contracting Officers undue latitude to exercise judgment and business sense. Clearly, the focus from the DOD Inspector General's Office was not reform, but how to maintain control and second-guess those in the acquisition system who are trying to significantly change the way they do business, are attempting to streamline the procurement process and get the most from the acquisition dollars available.

Finally, if we are to lower the barriers to empowerment and truly embrace reform, we must re-look at the way we perform our audit and oversight functions, institute major changes in the oversight and audit process and find ways to incorporate and make them a value-added portion of the procurement process. Additionally, if innovation is to grow and flourish within the acquisition system, steps should be taken to decriminalize the contracting function, except for cases of willful misconduct or intent to defraud; the current procurement bureaucracy should be revised; and an alternative evaluation criteria and reward that eliminates the need for the contracting officer to constantly seek higher levels of approval for deviations from the norm methods should be adopted

to encourage contracting officers to accept risks inherent in trying new concepts and contracting approaches.

5. Organizing for Innovation. Business history presents us with a lesson of striking relevance to the organizational decisions that leaders within DOD face today. In the classic work *Scale and Scope*, Chandler details how the modern corporation evolved in the United States, Germany, and Great Britain at the end of the ninetieth century. Corporations who invested the capital to build large-scale enterprises blazed the trail for the leading industries of the second industrial revolution. The most successful of these innovative companies were those who led by making massive investments in themselves in the areas of manufacturing, management and distribution. Corporations who failed to make such coordinated, internal commitments during this time period soon vanished. The lesson is that corporations that organize for innovation, not only survive, but lead.

Today champions of virtual corporations are urging leaders to again integrate vertically, outsource and subcontract anything and everything. All over the world corporations, and DOD, are jumping on the bandwagon, centralizing, and downsizing to pursue innovation. Why is the idea so tantalizing? Because it saves money in the short-term, and we have come to believe that bureaucracy is by definition bad, and flexibility is good. And so it follows that now, companies that invest as little as possible in their own bureaucracy will be more responsive to changing requirements and more likely to gain a competitive advantage. But while there are many successful virtual corporations, there are even more failures that do not make the headlines. Clearly, studies have shown that the new conventional wisdom of being a virtual organization have been oversold. The new conventional wisdom ignores the distinctive role that integrated organizations can play in the innovation process. Those rushing to downsize, centralize and outsource instead of nurturing their own core competencies may be risking their future.

In situations where technologies are changing rapidly, large organizations that attempt to do everything internally will flounder when competing with small organizations with highly trained

and motivated employees. Yet, it is the trade-off between incentives and control that lies at the heart of the decision that leaders must make about how to organize for innovation (see Figure 3). The challenge for leaders is to choose the organizational form that best matches the type of innovation they are pursuing.

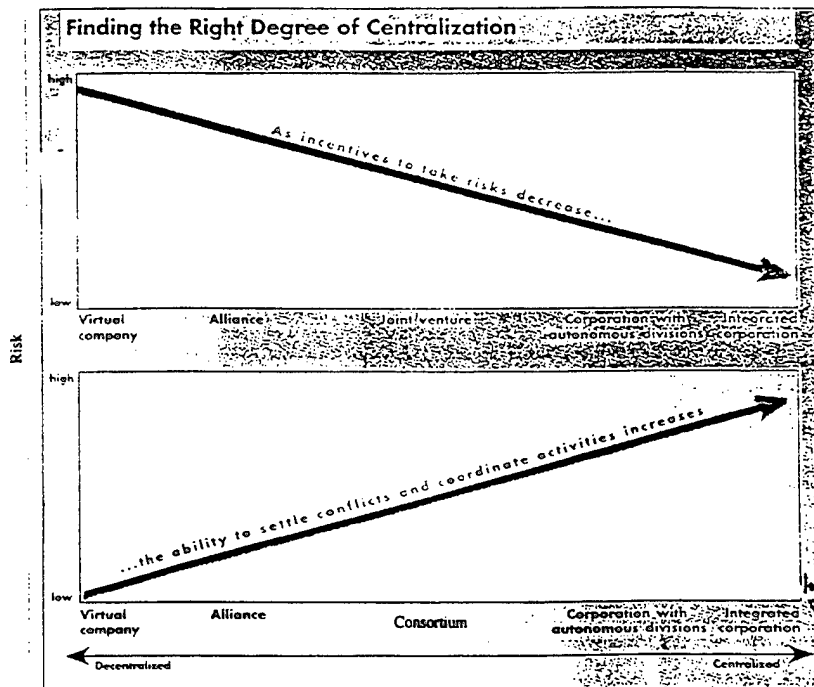


Fig. 3. Finding the right degree of centralization.

If virtual organizations and integrated organizations are at opposite ends of the spectrum, consortiums occupy a kind of organizational middle ground that has some of the advantages of an integrated organization yet is structured to take advantage of what makes a virtual organization so powerful.

C. IBM Case Study

IBM's development of the personal computer is a fascinating example of both the advantages and disadvantages of using virtual approaches to pursue innovation. When IBM launched its personal computer (PC) in 1981, the company elected to outsource all of the major components from the marketplace. By tapping the capabilities of other companies, IBM was able to get its product, the IBM PS/2, to market in 15 months. The microprocessor was purchased from Intel, the operating system was licensed from Microsoft. In essence IBM had an open architecture, based on standards and components that were "state of the art" and readily available. Additionally, IBM successfully promoted its open architecture to hundreds of third-party developers knowing that those products would add to the appeal of the PC. IBM also downsized its marketing, technical support and development structure and depended on independent retailers and service organizations to provide service and support.

By using outside parties for hardware, software, service and distribution (all former core competencies for IBM), IBM greatly reduced its investment in bringing the PS/2 to market. More important, those decisions allowed IBM to successfully launch an attack against Apple Computers that had pioneered the market and was growing rapidly. In short, the IBM PC was an early success, and established what became the dominant architecture of the entire microcomputer industry. Three years later, 1984, IBM replaced Apple as the number one supplier of PCs. Indeed, IBM's approach in its PC business is exactly the type of decentralized strategy that innovators within DOD are currently urging the large, slow moving organizations within DOD to adopt. Clearly the early years of IBM show many of the benefits of outsourcing and coordinated innovative thought: fast development of technology, the leveraging of emerging technologies and short term savings through outsourcing core competencies and downsizing infrastructure with only short-term goals in mind.

With the passing of time though, the downside to IBM's approach became apparent. IBM failed to anticipate that its virtual organization and open approach would prevent IBM from directing the direction of the PC architecture it had created. The open architecture and the

autonomy of its vendors invited design mutinies by its sub-contractors and the entry of competing IBM-compatible PC manufacturers. The result was that IBM had little to maintain its technological leadership and maintain its competitive advantage.

To solve this dilemma, IBM decided to advance the PC architecture. To do this, IBM needed to coordinate the many interrelated pieces of the architecture. However, third party hardware and software suppliers that had helped IBM establish its original architecture chose not to follow IBM's lead. When IBM introduced OS/2, it could not keep Microsoft from introducing Windows, an application that works with the old Microsoft DOS operating system, therefore greatly reducing the advantages of switching to OS/2. Similarly, Intel teamed with Compaq and introduced a new generation of microprocessors, Intel's 80386, an enhancement over the earlier generations of microprocessors used by IBM. Even though IBM owned 12% of Intel at the time, it could not prevent Intel from working with Compaq to beat the IBM market. By 1995, IBM's share of the market had dropped from 26% in 1986 to 7%. Today its PC is rumored to be modestly profitable at best. All of the profits from architecture, microprocessor development, and software have migrated to other corporations.

IBM's experience in the PC business illustrates the strategic importance of organization in the pursuit of innovation. Virtual approaches encounter serious problems when organizations seek to exploit short-term innovations. To capitalize on success, key development activities that depend on one another must be conducted in-house to capture the rewards from long term R&D investments. Without directed coordination, the necessary complimentary innovations required to leverage new technology may not be forthcoming. Historically, few, if any, virtual companies that have survived and prospered have outsourced everything. Rather, the virtuous have carefully nurtured and guarded the internal capabilities that are essential in maintaining their competitive edge. They also invest considerable resources to maintain and extend their core competencies internally. Indeed, without these organizations' unique competencies and capabilities, their strategic position in the network would be short-lived.

D. Choosing the Right Organization

Today few, if any, organizations can afford to develop internally all the technologies that might provide an advantage in the future. As you study corporate America, there is a succinct mix of approaches: some technologies were purchased from other companies; others were acquired through licenses, partnerships and alliances; and still other critical technologies were developed internally. Getting the right balance is crucial, as IBM's disastrous experience in PCs illustrates. But what constitutes the right balance? What capabilities exist in-house and in the current supplier base? When will needed technologies become available? Under what circumstances should an organization buy the technologies off-the-shelf and when should it form alliances or joint ventures? Under what circumstances should an organization commit to development of technology in-house? The decision on what to do is based on the vision or strategy of the organization. The strategic goals of the AAC leadership are: define desired outcomes; remove barriers to business judgment; provide acquisition reform tools; streamline processes; reduce overhead; empower individuals to use their own judgment for business decisions; put metrics in place to measure progress; and manage for end results.

Given that the above is the strategy, how do we best execute the strategy? We must first look internally and decide what core competencies are required in order to safeguard what I consider to be the three supporting pillars of the strategy. First, we must organize so that we do not lose the ability to influence the direction of technology; the early developments may not be designed for applications that benefit DOD. Second, we must safeguard DOD's ability to pace the technology, to bring it to market at a competitively desirable time. Third, we must carefully manage technology development and prevent critical technologies from becoming proprietary to commercial organizations, with DOD having little or no control over them, thereby keeping the government from achieving its vision of providing the fighting forces with the best technology, goods, and services, on time and at the lowest cost for our soldiers.

Within DOD, many individuals and agencies have responsibility for implementing the separate pieces of acquisition reform. Below the Secretarial level, no one central authority is

pulling the threads together into a coherent, synergistic way to implement overall policy. Moreover, the Army still has not harnessed and integrated the vast research and technology resources of academia, government laboratories, and industry into its overall strategy. A new guiding coalition is needed to lead the quest for change. I propose that the Army Acquisition Executive (AAE) charter an existing organization to form an R&D consortia whose primary mission is to streamline acquisition, utilizing all of the current and emerging initiatives and that is dedicated to achieving application-driven research, development and timely fielding of innovative technologies through collaboration, cooperation, and synergy through a partnership with government laboratories, academia, and industry.

E. The Consortium.

Why a new consortium? Currently, the army has a standing consortium, the federated laboratory concept (FedLab), that was formed between the Army Research Laboratory (ARL), academia, and industry that is focused on developing new digital technology. The ARL mission is to execute fundamental and applied research to provide the Army the key technologies and analytical support necessary to assure supremacy in future land warfare. The FedLab program came into being just a little over one year ago. The goal was to have government scientists and engineers and their counterparts in industry and academia develop a long-term relationship that focused on providing the soldier absolutely the best possible advanced technology available. As part of the FedLab program, ARL is planning to post about 20% of their scientists to long-term assignments at selected universities. The program as organized has been a great first step.

Why a new consortium? The FedLab program, while off and running, needs expanding if we are to truly exploit current reform initiatives and emerging technologies for the soldier. If we look at the Army science and technology continuum, it can be noted that while the FedLab program is harnessing the work being performed by the Army Research Office (ARO) and ARL, the production of actual technology products for soldiers is still being managed linearly (see Figure 4).

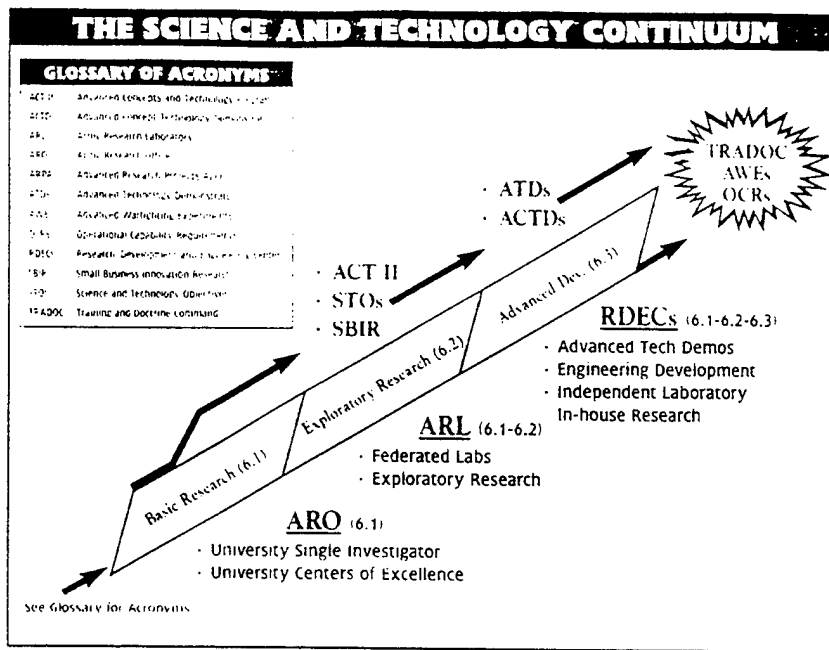


Fig. 4. The science and technology continuum.

Without a solid knowledge of what the user wants and needs, the best development program may completely misfire. The key enhancement of the new proposed consortium then becomes having the RDEC's and user involved early on to focus and encourage research, and as soon as possible, demonstrate the emerging technologies. The focus of the proposed consortium then would be to exploit reform initiatives to meet the vision, strategic goals and supporting pillars of the strategy while combining the best of incremental basic research and applied research breakthroughs, and to demonstrate and field technologies that support user requirements as soon as feasible. The consortium, consisting of the government (developers and users), industry, and academia, through application driven research and development, timely fielding of innovative concepts, exploitation of emerging technologies, and the use of rapid prototyping must work together to give DOD the technological edge it requires to avoid or fight the nation's wars (see Figure 5).

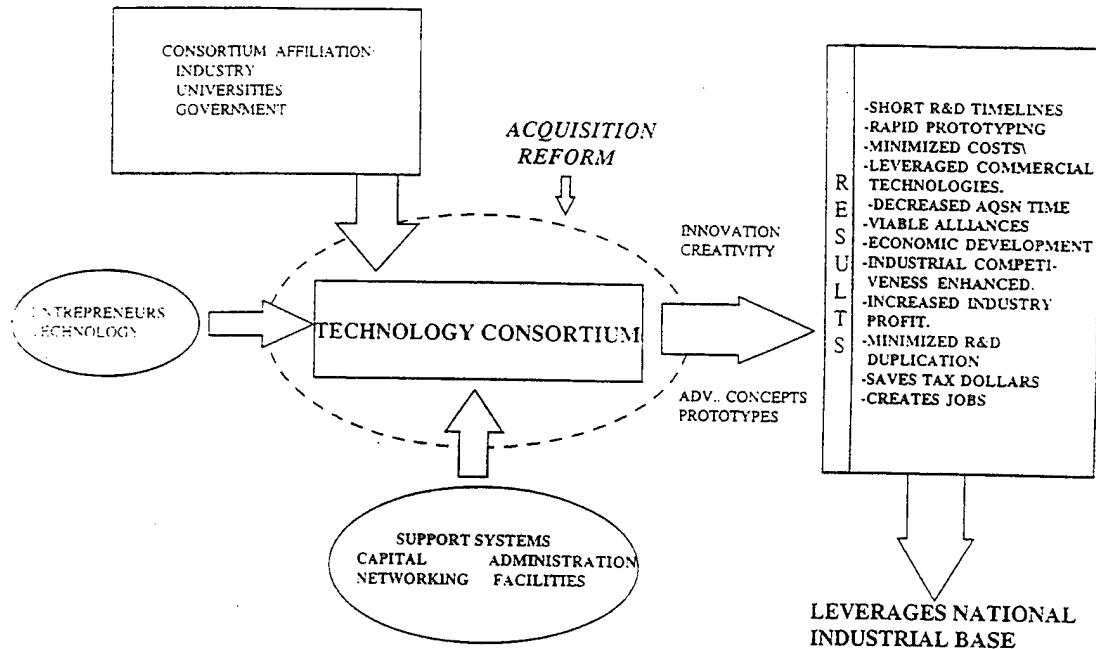


Fig. 5. The partnership.

This partnership would foster an R&D environment designed to accelerate technology transfer through maximum exploitation of commercial off-the-shelf (COTS), government (all Services) off-the-shelf (GOTS), and non-developmental items (NDI) technology; capitalization on previous government, industry and academic research investments in science and technology; fostering R&D in dual purpose areas; and finally, by providing a rapid response cycle between requirements definition and new system development/proof of concept demonstrations and fielding.

To use best commercial practices, partnering with industry and academia is essential. A COTS product, for example may have a lower acquisition cost but a higher implementation cost. The appropriate choice is then a cost, risk, availability and suitability tradeoff. Regardless of the options, however, sound product engineering must be applied and the main question asked: Does it meet the performance requirements? If not, can the performance requirements be afforded? How can we more effectively transfer government technology to industry? How can we more

quickly and effectively capitalize on commercially developed technology? How do we maintain long-term military technological superiority, within a backdrop of shrinking resources, at a time when technological breakthroughs in the commercial sector are outpacing the defense sector? The answer to all of these is through a partnership committed to meet government, industry, and academia's needs through application-driven research, development and timely fielding of innovative technologies.

Today, more than ever, it is critical that every dollar counts. Budget trends for DoD have declined each year since 1955 (see Figure 6). As we look at our current inventory of equipment, the plans to modernize must ensure that all investments from the R&D and Procurement accounts have positive near-term and long-term impacts on the capability and readiness of our fighting forces. We must continue to push for advanced technological solutions for real world problems.

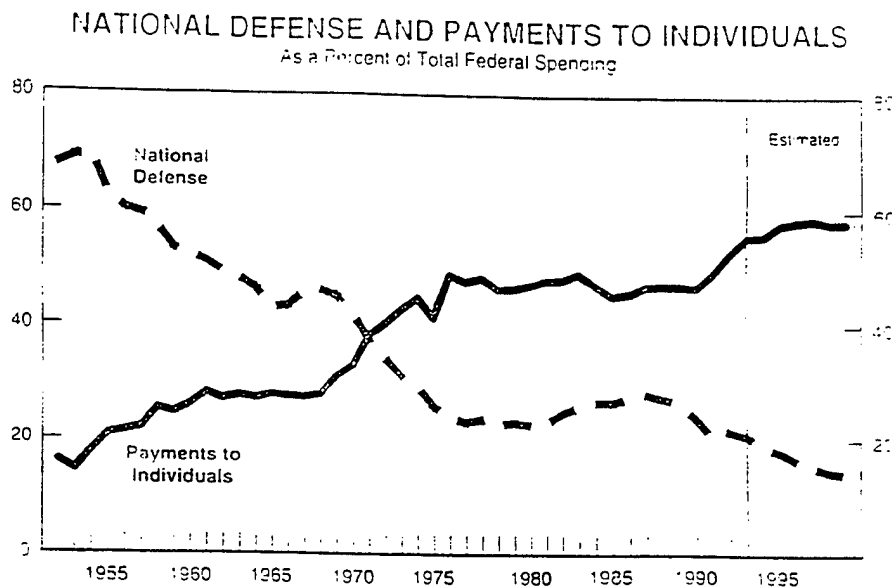


Fig. 6. Budget trends since 1955.

To maintain its core competencies, the partnership must have the resources, responsibility, accountability, and authority to exploit the tools provided by current reform initiatives, and must act outside the current status quo bureaucracies.

Scale and Scope. The leading industries of the late nineteenth and early twentieth centuries—chemical, steel, and railroads—all experienced rapid internal innovation. The winners were those that made large internal investments to shape the markets, rather than those that relied on others to lead the way. While business conditions have certainly changed, many of the principles that worked a century ago still apply today.

Today, leading companies like Microsoft and Intel make extensive internal investments to enhance their current capabilities and spur the creation of new ones. Because so many strategic innovations are internally driven, decentralization without strategic leverage and coordination is exactly the wrong organizational strategy. In most cases, only a large organization will have the scale and scope to coordinate complimentary innovations. As history points out, long-term success requires considerable and sustained internal investment within an organization. The lessons of the second industrial revolution apply to the third: Adept, well managed organizations that commit the right internal resources to innovation will shape the markets and build the new industries of the twenty-first century.

As resources get further constrained, we truly must remove barriers to business judgment; provide/exploit acquisition reform tools; streamline processes; reduce overhead; empower individuals to use their own judgment for business decisions; put metrics in place to measure progress; and manage for end results. To execute the ACC vision/strategy, the partnership must have the core competencies, illustrated in Figure 7, if it is to continue to influence the direction of technology, pace technology, and assure that DOD maintains access to technologies critical to its success.

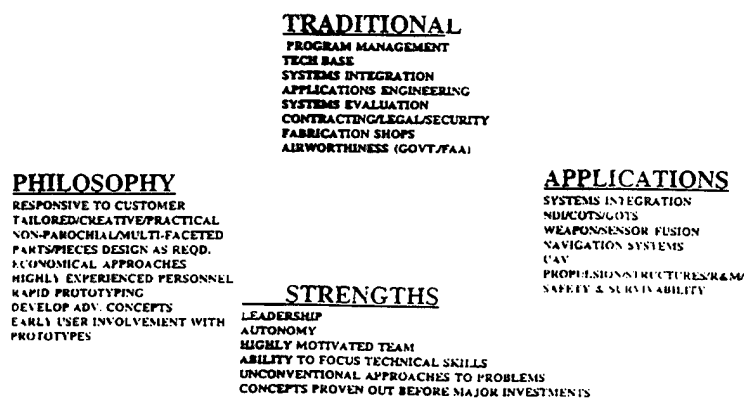


Fig. 7 Partnership core competencies.

III. CONCLUSIONS

Clearly, business history shows that the linear model of R&D should be overhauled. The structured phased milestone process that originated with the Ford Corporation should be eliminated. Rather than continuing to increase top-down control and oversight, leading to increased mistrust and bureaucratic rigidity, steps should be taken to integrate all phases of the development process, and provide PMs and Commanders complete end-to-end responsibility and accountability.

In a reduced budget environment, one must have the skill to discern what cutting edge technology is available commercially that meets the requirement, rather than locking yourself into developing technology that may be obsolete technology by the time it gets developed under the current system or buying off-the-shelf technology that does not meet the user's requirements. The different cultures, old style and new vision will rarely meld and thus some level of autonomy from the established system will be required initially if true reform is to succeed.

An organization charged with streamlining the acquisition process must be initially outside the normal system. Advanced Technology Demonstrations (ATD) and Advanced Concept and Technology Demonstrators (ACTD) are a limited means of experimenting with acquisition reform. To realistically demonstrate what can be accomplished with the streamlining initiatives currently set forth, and truly leverage the fruits generated by our investments in basic and exploratory research, the current R&D structure and acquisition process must be taken one step further: communication linkages must be increased; oversight must be decreased; contracting must be decriminalized, except for willful misconduct and intent to defraud by a Commander, PM and/or Contracting Officer; Commanders and PMs should be made responsible and accountable for the procurement system; and the culture within the Office of Secretary of Defense, the Services, and contractors must be changed from one based on mistrust and suspicion to one based on mutually supportive gain strategies that enhance flexibility, adaptability, creativity, and innovativeness.

A consortium/partnership provides a means to demonstrate acquisition and R&D reform through success by greatly enhancing technology transfer between members; allowing for the

capture and use of emerging and dual use technologies quickly and effectively; integrating the defense and commercial base; and creating fertile ground for technological innovation. The NPR established initiatives to reinvent government. It is now time to truly take advantage of this capability by designating an organization within the Army structure to be dedicated to acquisition/R&D reform and show the rest of the Army what can be accomplished when reform is executed seriously and bureaucracy and oversight are streamlined.

Finally, a new culture of broad government and industry collaboration will have to be nurtured. Trust, responsibility and accountability for Commanders and PMs, together with reduced oversight and interference from the existing bureaucracies are the keys to success. Under the conditions and standards outlined above, a government organization can effectively execute the reform initiatives implemented by the senior leadership, provide short R&D/prototyping timelines, and greatly reduce the time and cost associated with developing and fielding the products required by our soldiers to fight and win our nation's wars.

While change will be difficult to implement, it will not be impossible. Commanders and PMs, in addition to Contracting Officers, are the key to changing the culture of the federal acquisition system. Great strides have been made to improve the system. It is now time to exploit the changes that have been made and evaluate where we need to go to in the future. Changing the mind-set of the workforce requires employees, Contracting Officers, Commanders and PMs alike to understand and commit to the objectives of reform. The federal acquisition workforce wants to be part of the process, but that involves more than just following principles, rules, or regulations, it involves empowering leaders to act.

IV. RECOMMENDATIONS

One of the greatest strengths afforded the acquisition process is the people doing the work. They are well educated, dedicated and experienced. The weakness is the process-oriented culture that is dedicated to controlling and inhibiting those who are trying to perform the work. All too often the details of process compliance overshadow the purpose for the existence of the AAC, to provide our soldiers with the tools, services and support required to meet the mission. Specific recommendations for streamlining acquisition and implementing acquisition reform system are listed below:

1. Re-institutionalize leadership, trust, responsibility and accountability into the acquisition system down to the organizational level.
2. Rescind lower level regulations, directives and instructions to the FAR.
3. Reduce the large number of auditors and oversight personnel entrenched in the middle bureaucracies. Balance the price of oversight with its cost.
4. Redesignate the career positions of auditors and oversight personnel as accepted service with a contract for a specific period, after which they return to the "trenches."
5. Allow Commanders, PMs, and Contracting Officers greater authority over the procurement system.
6. Decriminalize the contracting process except for cases of willful misconduct or intent to defraud.
7. Replace Commanders and PMs that fail the trust measure or are incompetent. Don't add more checkers to oversee them.
8. Establish alternative evaluation and reward criteria to encourage contracting personnel to accept the risks inherent in trying new contracting approaches and methods.
9. Make auditors and oversight personnel part of the integrated process rather than inspectors after the fact.
10. Eliminate the requirement for Contracting Officers to constantly seek higher levels of approval for deviations from the status quo.

11. Designate the Commander and PM the final decision making authority with the responsibility, authority, and accountability for program decisions.

12. That the AAE charter sub-MACOM organizations as Acquisition Reform Centers of Excellence.

13. That the AAE endorse the forming of an R&D Consortia that is focused on exploiting the benefits of acquisition reform and development and fielding of innovative technologies.

14. That the Consortia or Partnership lines of command be short and clearly structured for minimal interference from the systemic reform barriers of the middle bureaucracy. Tailored documents and reporting should be the norm, not the exception.

BIBLIOGRAPHY

- Baumol, W. and Benhabib, J. "Chaos, significance, mechanisms, and economic applications,"
Journal of Economic Perspective, 3(1) 1989: 77-105.
- Chandler, Alfred. *Scale and Scope*. Cambridge: Belknap Press, 1990.
- Federal Acquisition Streamlining Act of 1994*. 103rd Cong., 2nd Sess. Washington, D.C.: GPO
1994.
- Federal Acquisition Reform Act of 1996*. 104th Cong., 2nd Sess. Washington, D.C.: GPO
1996.
- Florida R. and M. Kenney. *The Breakthrough Illusion: Corporate America's Inability to Link
Production and Innovation*. New York: Basic, 1990.
- Gibson, D. and R. Smilor. *Technology Transfer in Consortia and Strategic Alliances*. NJ:
Rowman and Littlefield, 1992.
- Gore, A. *From Red Tape to Results: Creating a Government that Works Better and Costs Less*.
Report of the National Performance Review, October 1993 (on-line version).
- Kirby, Wendy. "Commercial Practices for Commercial Products." Prepared for the Scientific
Apparatus Makers Association, 1986.

- LaFrance, M. "The structure of expertise." In: K. McGraw, and C. Westphal, *Knowledge of Acquisition: Current Practices and Trends*. Chichester, England: Ellis Horwood, Ltd, 1990.
- Machiavelli, Niccolo. *The Prince*. Translated by Luigi Ricci. Oxford: Oxford University Press, 1980.
- Nonaka, I. "Creating organizational order out of chaos: Self-renewal in Japanese firms," *California Management Review*, 30(3) 1988.
- Nonaka, I. and T. Yamanouchi. "Managing innovation as a self-renewing process," *Journal of Business Venturing*, 1989.
- President's Blue Ribbon Commission on Defense Management. *A Quest for Excellence. Final Report to the President*. Washington, D.C.: President's Blue Ribbon Commission on Defense Management, June 1986.
- Quinn, W. "Managing innovation: Controlled chaos," *Harvard Business Review*, (May-June 1985): 73-80.
- Schoonhoven, G. and M. Jelinek. "Dynamic tension in innovative, high technology firms: Managing rapid technological change through organizational structure." In M. Gilnow and S. Mohrman, *Managing Complexity in High Technology Organizations*. New York: Oxford University Press, 1990, pp. 90-118.

ENDNOTES

-
- ⁱ Machiavelli, Niccolo. *The Prince*. Trans. Luigi Ricci. Oxford University Press, 1980.
- ⁱⁱ Kennedy, Paul. *The Rise and Fall of the Great Powers*. Vintage Books: NY, NY, 1989.
- ⁱⁱⁱ "The Challenge to Americans," *Foreign Affairs*, October 1947, p. 12.
- ^{iv} Goodman, Glenn. "Cueing the QDR." *Armed Forces Journal*. February 1997, p. 12.
- ^v LeBouef, Gibson. "Auditing, Investigation, Oversight: Pentagon's Top Inspector General Speaks to Program Manager." *Program Manager*. October 1986, p. 5.
- ^{vi} *Ibid.*, p. 5.
- ^{vii} *Ibid.*, p. 7.
- ^{viii} Vander Schaaf, Derek. "Acquisition Reform: DOD's Right to the Best Deal." *Defense 95*. 1986, p. 37.