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Developing Program Management Leadership for Acquisition Reform

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Preface & Acknowledgements

During his internship with the Graduate School of Business & Public Policy in June 2010, U.S. Air Force Academy Cadet Chase Lane surveyed the activities of the Naval Postgraduate School's Acquisition Research Program in its first seven years. The sheer volume of research products—almost 600 published papers (e.g., technical reports, journal articles, theses)—indicates the extent to which the depth and breadth of acquisition research has increased during these years. Over 300 authors contributed to these works, which means that the pool of those who have had significant intellectual engagement with acquisition issues has increased substantially. The broad range of research topics includes acquisition reform, defense industry, fielding, contracting, interoperability, organizational behavior, risk management, cost estimating, and many others. Approaches range from conceptual and exploratory studies to develop propositions about various aspects of acquisition, to applied and statistical analyses to test specific hypotheses. Methodologies include case studies, modeling, surveys, and experiments. On the whole, such findings make us both grateful for the ARP's progress to date, and hopeful that this progress in research will lead to substantive improvements in the DoD's acquisition outcomes.

As pragmatists, we of course recognize that such change can only occur to the extent that the potential knowledge wrapped up in these products is put to use and tested to determine its value. We take seriously the pernicious effects of the so-called “theory–practice” gap, which would separate the acquisition scholar from the acquisition practitioner, and relegate the scholar's work to mere academic “shelfware.” Some design features of our program that we believe help avoid these effects include the following: connecting researchers with practitioners on specific projects; requiring researchers to brief sponsors on project findings as a condition of funding award; “pushing” potentially high-impact research reports (e.g., via overnight shipping) to selected practitioners and policy-makers; and most notably, sponsoring this symposium, which we craft intentionally as an opportunity for fruitful, lasting connections between scholars and practitioners.

A former Defense Acquisition Executive, responding to a comment that academic research was not generally useful in acquisition practice, opined, “That's not their [the academics'] problem—it's ours [the practitioners']. They can only perform research; it's up to us to use it.” While we certainly agree with this sentiment, we also recognize that any research, however theoretical, must point to some termination in action; academics have a responsibility to make their work intelligible to practitioners. Thus we continue to seek projects that both comport with solid standards of scholarship, and address relevant acquisition issues. These years of experience have shown us the difficulty in attempting to balance these two objectives, but we are convinced that the attempt is absolutely essential if any real improvement is to be realized.

We gratefully acknowledge the ongoing support and leadership of our sponsors, whose foresight and vision have assured the continuing success of the Acquisition Research Program:

- Office of the Under Secretary of Defense (Acquisition, Technology & Logistics)
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- Program Executive Officer Integrated Warfare Systems
- Office of the Assistant Secretary of the Air Force (Acquisition)
- Office of the Assistant Secretary of the Army (Acquisition, Logistics, & Technology)
- Deputy Assistant Secretary of the Navy (Acquisition & Logistics Management)
- Director, Strategic Systems Programs Office
- Deputy Director, Acquisition Career Management, US Army
- Defense Business Systems Acquisition Executive, Business Transformation Agency
- Office of Procurement and Assistance Management Headquarters, Department of Energy

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James B. Greene, Jr.
Rear Admiral, U.S. Navy (Ret.)

Keith F. Snider, PhD
Associate Professor



Panel 20 – Investing in People: Research in Workforce Professionalization

Thursday, May 12, 2011	
1:45 p.m. – 3:15 p.m.	Chair: Dr. James McMichael, Vice President, DAU <i>Developing Program Management Leadership for Acquisition Reform</i> Neil McCown, USN <i>Experience Catalysts: Understanding How They Can Help Fill the Acquisition Experience Gap for the Department of Defense?</i> Robert Tremaine, DAU <i>Program Manager Professionalization: The “Return on Investment” Question</i> Keith Snider, NPS

James McMichael—Vice President, Defense Acquisition University (DAU). As vice president, Dr. McMichael is responsible for the university’s delivery of learning products through the DAU regions and the Defense Systems Management College, curricula development, online learning programs, learning technology, and library services.

Prior to assuming his current position, Dr. McMichael served 14 years as the director of acquisition education, training, and career development in the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. In that position, Dr. McMichael was the principal proponent for workforce management, and he formulated policies and programs to ensure the quality and professionalism of the workforce. Throughout his career, Dr. McMichael has also served as the technical director for the Navy Personnel Research and Development Center in San Diego, CA; the special advisor for manpower, personnel, and training with the Office of the Chief of Naval Operations; and the chairman of the Psychology Department at Long Island University, NY, where he taught for eight years.

Dr. McMichael is a graduate of Princeton University, and he received his advanced degrees at the University of Delaware. He was a fellow in the Woodrow Wilson School of Public and International Affairs at Princeton University from 1982 to 1983.



Developing Program Management Leadership for Acquisition Reform

Neil McCown—CDR Neil McCown has served in the U.S. Navy for 18 years, including three deployments to the Persian Gulf and operational tours flying tactical, training, and transport aircraft. He recently completed in-resident study at the Naval War College and is currently assigned to OPNAV N09X, Enterprise Integration and Analysis. [neilmccown@hotmail.com]

Abstract

Recent reform measures in acquisition processes support the acquisition community's long-established goal of providing warfighters with the highest quality and most cost-effective weapons systems. Since the role of the Program Manager remains pivotal to overall program success or failure, efforts to reform the acquisition community must supplement and expand traditional expectations of PMs, focusing on four key concepts: ensuring leadership continuity, providing systems engineering training, requiring increased hands-on training, and employing trust-building tools. The turnaround of the USAF C-17 program illustrates the successful effects of building trust among program stakeholders. With these qualities, PMs leading the development of future weapons systems will unquestionably contribute to the U.S. military's sustained role as the most capable, powerful, and respected military in the world.

Introduction

Relative to its closest competitors, the United States military stands alone as the most capable, powerful, and respected military in the world. The Department of Defense (DoD) acquisition community, charged with providing the U.S. warfighter with the highest quality and most cost-effective weapons systems, is arguably as important to maintaining that superiority as the Army, Navy, Marine Corps, Air Force, or Coast Guard. Yet despite little acknowledgement or recognition, the health of that community is rarely addressed. Although characteristics of the acquisition workforce and the defense acquisition system itself may contribute to recent program cost and schedule overruns, the role of the Program Manager (PM) remains pivotal to the program's overall success or failure. As a result, efforts to reform the acquisition community must supplement and expand traditional expectations of PMs, focusing on four key concepts: ensuring leadership continuity, providing systems engineering training, requiring a minimum level of hands-on training, and employing trust-building tools.

Acquisition Reform and the Program Manager

The acquisition community has seen an unfortunate rise in the number of reasons for reform. Shifting system requirements, poor cost estimating, or errant program oversight have plagued numerous recent programs. In some cases, one or more of those factors have completely stalled defense programs, some of which include the Armed Reconnaissance Helicopter, Combat Search and Rescue replacement (CSAR-X), VH-71 Marine One replacement, and Armed Common Sensor. In fact, the total budget excess of the DoD's largest 95 acquisition programs has been \$295 billion, and those programs' schedules have slipped an average of two years. Current trends indicate that, without significant change, cost overruns will continue in an unsustainable manner.



Several characteristics of today's acquisition workforce complicate efforts to reverse these trends. First, compared to its workload, it is grossly understaffed. Over the previous 20 years, the DoD eliminated a large number of its acquisition positions in an effort to correct historic problems and cut costs. In doing so, it lost many of the positions responsible for building a solid foundation during the early stages of a program; applying that expertise during that time period is arguably the most critical factor for ensuring a program remains on track throughout its life cycle. Next, organizational issues limit the acquisition workforce from being fully recognized as a professional component. Dominant among those issues is the notion that the acquisition community operates with insufficient regard for combatant commander's needs, resulting in weapons systems that fail to adequately address the most pressing threats facing warfighters. Third, a significant portion of the workforce is nearing retirement age. Finally, more lucrative opportunities in the private sector are an irresistible pull for many in the workforce.

Fundamental qualities of the defense acquisition system further hamper efforts at change. At its core, it has more in common with a business enterprise than other functions within government. This remains true even though the defense acquisition system represents the world's most powerful customer, who sets and enforces procurement rules. Furthermore, the government continues to promote cumbersome, bureaucratic processes, which emphasize the pursuit of "exquisite" weapons systems and are reluctant to pursue "good enough" —though possibly somewhat imperfect— systems. The outcome is an acquisition system which is unable to produce desirable results in an efficient manner.

Characterized by a pervasive lack of trust, the relationship between the DoD, Congress, and the Defense Industry (known as the "Iron Triangle") remains an additional challenge to defense acquisition. The varying perspectives and motivations of each member of the Iron Triangle test the ethical foundation of the entire enterprise. Striving to achieve profits and shareholder value, the Defense Industry is strongly tempted to overpromise on capabilities. At the same time, the executive branch and the DoD display a frequent tendency to modify requirements and specifications during the course of a weapon system's development as threat conditions evolve and leadership changes. These alterations consequently increase cost and create schedule delays. The interests of the constituents in their districts and a desire to retain control of programs through selective spending, meanwhile, drive the actions of Congress. Throughout the Iron Triangle, self-interested members of each corner resist changing the acquisition system due to the financial and career incentives it offers.

Non-military issues draw congressional attention and funds away from acquisition programs, and without funds necessary to sustain the existing bureaucracy, pressure builds to fix the inefficient defense acquisition processes that saddle U.S. national security. Fiscal pressures are numerous: coping with the health care crisis, ensuring a stable supply of energy, preserving the natural environment, restoring the world economy, rebuilding the U.S. physical infrastructure, and others.

While numerous factors contribute to a need for defense acquisition reform, particularly from a leadership perspective, the PM is at the heart of the process. Charged with operating within cost, schedule, and performance limits, a PM is assigned to each acquisition program. DoD Directive 5000.01 (USD[AT&L], 2007) provides the overarching policies governing the defense acquisition system, as well as a definition of the PM:

The designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The Program Manager shall be accountable for



credible cost, schedule, and performance reporting to the Milestone Decision Authority.

Although this definition accurately encapsulates the responsibilities of the PM, additional elements of the position may illuminate some root causes of problems the defense acquisition community faces.

Continuity of Leadership

The fact that military officers are assigned to relatively short PM tours is one potential source of trouble. While a typical tour for an officer rarely exceeds three years, most weapons systems spend far more time than that in development. As a result, it is very unlikely that a single PM will remain assigned to a weapons program long enough to guide it from its early developmental stages through fleet introduction. Indeed, due to the length of time required for a large program to move from one major milestone to the next, most military PMs are only involved with a program long enough to guide it through (at most) one milestone before they rotate out of the job. A military officer admittedly has the added career goal of gaining a broad exposure to a variety of programs, a necessary prerequisite for higher levels of leadership. The relative importance of this goal, however, should be carefully weighed in relation to its impact on the long-term success of weapon system programs.

An alternative approach to ensuring continuity in program leadership is to shorten the duration of the program itself, which requires an examination of the underlying requirements process. In a broader sense, the problems facing this process can be viewed as a misalignment of ends and means. Military operators, representing the weapon system customer, understandably seek an optimum material solution to a threat scenario. Current trends indicate operators desire the threat be overwhelmed with an “exquisite” application of technology. Unfortunately, this often translates into a proposed weapon system that is beyond current technical capabilities. Neither the Joint Capabilities Integration and Development System (JCIDS) process nor the Planning, Programming, Budget, and Execution System (PPBES) community fully address the technological uncertainty, which results in programmatic delays and cost escalation.

Systems Engineering

Although a PM may have limited ability to prevent military operators from seeking an unachievable capability, or to change JCIDS or PPBES, an increased emphasis on systems engineering skill sets may assist in identifying unrealistic requirements and managing technical risk early. As applied to defense acquisition, system engineering refers to the process of preliminary developmental planning, and importantly, it occurs prior to the formulation of formal requirements. In addition to considering all-new weapons systems, it stresses alternative solutions to perceived needs, such as commercial or foreign-made products, or modifications to existing systems. With the best solution identified, system engineering also focuses on the development of core technologies for future weapons systems. Not surprisingly, congressional critics have identified a lack of these skills as a significant source of the defense acquisition’s difficulties.

Unfortunately, as a cost-saving measure in the 1990s, programs providing system engineering skills were abandoned. This, in turn, resulted in a significant degradation in the services’ ability to perform critical systems analysis. A renewed effort to incorporate systems engineering training and experience requirements for PMs, however, would provide them with an effective means to identify and manage technical risk. That capability may or may



not shorten program development cycles, but it would better prevent unforeseen cost and schedule overruns due to an overreliance on immature technologies.

Training and Experience

Although not specifically in systems engineering, some encouraging signs are beginning to appear that indicate improvement in training and experience requirements. The Defense Acquisition University, charged with educating the acquisition professionals, is currently engaged in active programs to ensure that the workforce has the needed skills. Specific measures include growing and improving training courses, increasing experience requirements, and enhancing workforce planning. These efforts combine with the military services' leadership training, particularly professional military education programs. Mid- and senior-grade officials in military and civilian organizations can now take advantage of a considerably expanded selection of executive and leadership courses offered through the DAU.

Experience remains an essential element of effective program management. The “management” aspect can be taught, and PMs can gain knowledge of how to apply a variety of processes and tools, but “leadership” ability remains distinctly different. As it relates to the PM role in defense acquisition, the ability to apply and gain acquisition experience is the leadership quality essential for effective program performance. Since the acquisition system and the business world have much in common, it is significant that business places a premium on experience. In particular, it views hands-on experience as directly related to the ability to make sound decisions.

The military officer corps serve as a valuable source of acquisition professionals, yet operational commitments often prevent those officers from gaining the hands-on acquisition experience needed. One method to overcome this challenge is to create opportunities for officers to gain PM experience early in their careers.

Building Trust

Even PMs armed with high-quality experience, however, are impacted by the distrustful environment of the Iron Triangle. Fluctuating streams of funding from Congress, creeping requirements from military operators, and unrealistic performance capabilities promised from suppliers are common obstacles to effective cost and schedule management that the PM faces. Each of these results from the tendency to misrepresent actual conditions due to underlying motivations: pleasing constituents, exerting control, and increasing profit and value.

This dishonesty—real or perceived—forms the beginning of a vicious cycle of mistrust. A human tendency to exaggerate perceptions of negative behavior (in this case, dishonesty) transforms minor actions (or misperceptions) into significant ones. A further tendency, referred to as the “norm of reciprocity,” leads each side of the “Triangle” to reciprocate with negative behavior. That (actual) negative behavior likewise creates a genuinely negative response, and the result is a downward spiral of dishonesty and erosion of trust.

To break the vicious cycle of mistrust, the PM can focus on making a distinction between misperceptions and actual dishonest behavior. One method to accomplish this is to seek the opinion of an outside party, one who does not have a stake in any corner of the Iron Triangle. Another method is to seek extenuating circumstances that may not be obvious, and may influence the other side's decision-making in a way that creates the



appearance of ill intent. Finally, the PM could simply ask the other side to explain their behavior. If any of these methods does provide a better understanding, it may become apparent that there is a reasonable difference of opinion.

With the cycle of mistrust broken, an important follow-on step is to trigger a virtuous cycle that builds trust. An effective tool to accomplish this is to create the perception of fairness, not only in the outcome of a specific interaction, but also in the interaction itself. On average, whether or not one side considers an interaction fair depends upon whether that side had sufficient opportunity to voice their opinion. Just as important, that side must believe that the other side has listened to and seriously considered it.

Carefully listening to the other side's perspective gives that side the impression that they were treated fairly, and accomplishes three things toward building trust. First, even if the outcome of the interaction was undesirable, the other side will have a greater sense of satisfaction with the results. Next, the other side will be more likely to follow through on agreements that they believed were fair. Finally, and perhaps most significantly, the chances of successful cooperation with the other side in the future increases. The turnaround of the USAF C-17 program illustrates the beneficial effects PMs can achieve through this trust-building tool.

The USAF C-17 Program and the Effects of Building Trust

In May 1993, the USAF C-17 program was in a state of crisis, and in danger of being terminated. The first flight was delayed nearly two years, and the estimated unit cost grew from \$178.4 million in 1988 to over \$500 million by 1993. The sources of these schedule and cost overruns could be traced to each corner of the Iron Triangle. First, system requirements from the DoD shifted constantly, partially due to new personnel continuously being added to the program and the disappearance of the Soviet threat. Next, McDonnell Douglas (the prime contractor) repeatedly encountered technical and personnel challenges. Finally, shifting priorities in Congress caused funding streams to continually fluctuate or stop altogether, keeping the C-17 development and production in a tumultuous and unpredictable state. In his testimony before the House and Senate, Undersecretary of Defense John Deutch identified a lack of trust as a principal reason for the program's problems. The gridlock stemming from the negative relationship between the U.S. Government and McDonnell Douglas prevented the program from successfully moving forward.

A critical initiative resulting from those observations, which helped transform the C-17 program from a state of crisis to a path toward success, was to create an open path of communication between top-level USAF and McDonnell Douglas leadership. Called "CEO" meetings, they had the effect of providing the other side with an opportunity to explain their behavior and reach an understanding. With the cycle of mistrust finally beginning to break, both sides could create perceptions of fairness by agreeing to substantive concessions. Among other things, McDonnell Douglas dropped over \$1B in legal claims, and the Air Force relaxed numerous specification requirements. The settlement achieved a significant change in the management environment of the program. People on both sides stopped working as adversaries and, instead, moved forward with a sense of cooperation, partnership, and optimism.

Conclusions

As the C-17 program demonstrates, the appropriate application of trust-building tools can result in a far-reaching program turnaround. Likewise, weapons systems programs directly benefit from efforts to ensure leadership continuity, to provide systems engineering



training, and to require a minimum level of hands-on training. Despite previous initiatives intended to make improvements in these areas, increasing demands for reform in the defense acquisition community raises expectations that they be implemented effectively. Focusing those efforts on the PM remains critical, since the PM leadership is essential to ensuring that warfighters in the Army, Navy, Marine Corps, Air Force, and Coast Guard receive high-quality weapons systems on time and within budget. Going forward, weapons systems consistently developed in this manner will unquestionably contribute to the U.S. military's sustained role as the most capable, powerful, and respected military in the world.

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Enterprise Integration and Analysis
OPNAV N09X

Developing Program Management Leadership for Acquisition Reform

The 8th Annual Acquisition Research Symposium
Panel #20: Investing in People: Research in Workforce Professionalism

CDR Neil R. McCown, USN



12 May 2011

Introduction

- The Defense Acquisition Community
 - Charged with providing the highest quality and most cost effective weapons systems.
- Current cost overruns will be unsustainable.
- The Program Manager's pivotal role in program success makes it an essential area for reform.
 - Grossly understaffed
 - Not a professional component
 - Workforce nearing retirement
 - The pull of the private sector

Overview

- Developing effective PM leadership
 - Leadership continuity
 - Systems engineering training
 - Hands-on training
 - Trust-building
- USAF C-17 program turnaround
 - Example of the effects of building trust

Continuity of Leadership

- Weapon systems spend more time in development than an officer's typical tour.
 - Most military PM's guide a program through only one milestone.
 - Continued career progression requires officers gain a broad exposure to a variety of programs.
- One solution: shorten program duration
 - "Exquisite" systems often exceed technical capabilities
 - Technological uncertainty translates into delays and expense
 - Neither JCIDS nor PPBES fully address issue
 - Need to examine requirements process

Systems Engineering

- Empower PM's with system engineering skills to:
 - Identify unrealistic requirements early
 - Manage technical risk early
- System engineering in defense acquisition
 - Developmental planning prior to formulation of formal requirements
 - Stresses alternative solutions
 - Focuses on the development of core technologies
- Result: prevention of overreliance on immature technologies

Training and Experience

- The Defense Acquisition University
 - Training courses
 - Experience requirements
 - Workforce planning
- Professional military education
- Gaining and applying acquisition experience is an essential leadership quality.
 - In business, experience often equates to sound decision-making.
- Opportunities to gain experience must be created early in an officer's career.

Building Trust

- How trust is lost
 - Underlying motivations set conditions for distrust
 - ✓ Congress limiting funding streams to please constituents
 - ✓ The military shifting requirements to overwhelm a threat
 - ✓ Suppliers promising unrealistic capabilities to increase profit
 - “Norm of reciprocity” creates vicious cycle
 - ✓ Human tendency to exaggerate perceptions of negative behavior
 - ✓ Tendency to reciprocate with negative behavior
 - ✓ Generates a genuinely negative response
 - ✓ Downward spiral created, eroding trust

Building Trust, cont.

- Breaking the vicious cycle
 - Distinguish between perceived and actual dishonesty
- Triggering a cycle that builds trust
 - Create the perception of fairness in interactions and outcomes
 - ✓ Listening to, and seriously considering, the other side's opinion
 - o Greater satisfaction with results
 - o Improved follow-through on agreements
 - o Better chance of future successful cooperation

The USAF C-17: Background

- A program in crisis
 - Two-year delay on first flight
 - Estimated unit cost grew from \$178.4 million in 1988 to over \$260 million by 1993
- Principle reason for the program's problems: lack of trust
 - Stemmed from negative relationship between the US Government and McDonnell Douglas

The USAF C-17: the Effects of Building Trust

UNCLAS

- Creation of “CEO” meetings
 - A path of communication between USAF and McDonnell Douglas leadership
 - An opportunity to explain behavior and reach an understanding
 - Broke cycle of mistrust
 - Created perceptions of fairness by agreement on concessions
- Resulted in shift in management environment
 - Cooperation, partnership and optimism

Summary

- Key opportunities for effective PM development
 - Leadership continuity, systems engineering training, hands-on training, and trust-building
- Acquisition reform efforts must include consideration of the PM.
 - Effective PM leadership is critical to delivering systems on time and within budget.