

**SYMPOSIUM ON TRANSFORMING DEFENSE ACQUISITION:  
ENTREPRENEURIAL THINKING AND INNOVATIVE  
PROCESSES**

Symposium Editors: Timothy S. Reed and Michael A. Greiner

## SYMPOSIUM INTRODUCTION<sup>1</sup>

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When this symposium on procurement transformation within the U.S. Department of Defense (DoD) was first proposed, the seeds of transformation had just begun to take hold. As the promise of procurement transformation begins to be fulfilled, we are pleased to present three pieces of research which illustrate the distinct differences between the status quo procurement system and the transformational system which is beginning to take hold in DoD.

Each of the three articles seeks to answer research questions from the procurement transformation tableau – yet from different perspectives, and different methods. It should be noted at the outset that the one thing those attempting procurement transformation have all experienced is the difficulty in changing the existing system. Changing any organizational process is a challenge, as many as 70% of all change initiatives fail, but there are many characteristics of DoD procurement that compound the difficulty, and some of those challenges are captured in the three articles selected for this symposium.

The Baron study is a transitional case study that highlights the characteristics of the old system and the barriers to moving toward a new procurement system. It is a comparative case study of two space satellite system procurement programs. One of the alternatives was far superior

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in performance, and less expensive in cost than the other. The use of new procurement strategies proved to be tremendously beneficial for the successful acquisition, while the reliance on the status quo yielded poor performance at much higher cost for the other acquisition.

Baron's analysis of these two procurements clearly illustrates the characteristics of the commercial off the shelf (COTS) procurement strategy; a centerpiece of acquisition reform. Under a COTS strategy, procurement is attempted using as much commercial product and process as is available. Baron reveals the barriers inherent in using COTS. One of the most costly characteristics of the legacy procurement system becomes clearly evident, that being the requirement by DoD for design-to-build specifications as opposed to the commercial, performance related standards that have emerged in procurement transformation.

As technology has increasingly been transferred to the commercial sector, many of today's defense requirements can be met through the use of COTS technology and products. The primary benefits of using COTS are that COTS is much less expensive than a design to build alternative, and that contractors can be held to a performance specification (the product must perform as required) rather than a design specification, addressing what the procuring officials need the product to do, irrespective of how it meets the requirement.

Baron's research finds that a "semi-structure" yields superior performance results. A semi-structure features processes and organizational structure that are neither so rigid as to impede innovation, nor so flexible as to impede progress or lose sight of core competencies. The balance between these two extremes is critical. When it comes to pursuing new ideas and/or new technology, the ambidextrous organization can do both well.

The growing emphasis on the use of COTS products when available requires a cautionary approach; not all products are available (and more importantly, usable for military application) as COTS products. Notwithstanding the growing emphasis by some on the use of COTS, Baron finds that there is little or no motivation to employ COTS among current organizations and staff. This is attributable to COTS being viewed as new and risky by buying offices, strong incentives to maintain traditional approaches to procurement, and an individual reward system which is at odds with organizational goals.

Another noted problem in employing COTs is resistance to change. Baron finds the implications of prospect theory to be readily apparent in DoD procurement. People prefer certain outcomes, not uncertain ones. The uncertainty of unknown outcomes leads to a risk-averse preference for known outcomes, even when the known outcomes are far inferior to the potential outcome of the alternative.

Randall, Brothers, and Holt investigate the legacy of existing performance metrics used by DoD procurement organizations. DoD acquisition leadership is emphasizing the use of performance metrics as the method for assessing contractor performance. The difficulty is in creating useable, meaningful metrics. In this paper, Randall, Brothers, and Holt develop a performance metrics evaluation system and use it to analyze existing metrics.

Their findings indicate that outsourcing can lower investments and create better responsiveness, but previous research has not yielded solid support for outsourcing public sector functions. Further, efficiency improvements can only be evaluated if a properly designed performance metric has been used. Additionally, they find that Performance Work Statements should include a description of services, a service delivery statement and other contract information. The authors developed a performance evaluation system from their review of the literature.

Using the performance metrics evaluation system, Randall, Brothers, and Holt found that current methods of measurement make it difficult for the Air Force to determine whether it is getting the services required; nor can the performance metrics be used effectively to evaluate efficiency, effectiveness or quality. Of 161 metrics, only 33 passed initial evaluation (tests 1-6), and only 7 could be fully evaluated (tests 7-11), indicating a wide gap between currently utilized performance metrics and the model metrics proposed in their research.

In our final paper, Novak et al. examine another facet of procurement transformation – Evolutionary Acquisition (EA). EA has been heralded as a remedy for both long acquisition cycle times and cost and schedule overruns. EA is an acquisition strategy that defines, develops, produces or acquires, and fields an initial hardware or software increment of operational capability. As a result, capabilities are provided in a shorter period of time, followed by subsequent increments over time, with each increment (or spiral) building on the previous spiral.

In EA, requirements are refined through experimentation and risk management with continuous feedback. The authors find that many advantages exist. They include: 1) the ability to field core capabilities faster, 2) flexibility of the process in injecting emerging technology, 3) the process can be applied to most acquisitions and 4) the EA process supports risk management principles (as opposed to the goal of the elimination of risk which was often sought in previous procurement strategies).

Novak et al. examine the Global Hawk unmanned aerial vehicle (UAV), the B-2 bomber, and the Unmanned Combat Aerial Vehicle (UCAV) as cases illustrating EA. As a result of interviews and surveys conducted with subject matter experts with knowledge of the EA process employed relative to their programs, a list of recommendations was developed. These include: 1) users must accept a 60-80% solution, 2) evolving requirements, 3) the financial community must be flexible, 4) there must be a government–contractor partnership and integrated product team cooperation, 5) flexibility is critical throughout the process, 6) the logistics community must be involved early (because there will likely be multiple configurations), 7) testing must be approached as a clean slate—how much is really necessary and 8) stable funding for the program must be secured.

None of these recommendations presented in these three papers is a minor “tweak” of existing acquisition processes. Much work remains to be accomplished, not only in streamlining current processes and regulations, but in redefining the culture and redesigning the entire business model for the DoD. We believe that these three papers show promise, and provide a heading check for the DoD that indicates that they are on the right path.

#### NOTES

1. The views expressed in this research are those of the authors and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government.