

GAO Discusses DoD Program Management

Written by Nick Sanders

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It's all about "knowledge-based acquisition practices," according to a recent [GAO report](#). The report covered the 86 Major Defense Acquisition Programs (MDAPs) managed by DoD.

GAO reported that the aggregate value of those 86 programs is \$1.66 trillion (with a "T")—so delivering each of those 86 programs on-time and on-budget is very much an important priority for the DoD as well as the taxpayers who are footing the bill.

The report is more than 200 pages long. Each MDAP is grouped by cognizant military service and then discussed individually. There are eight Appendices. Fundamentally, the report provides a year-over-year comparison of the 2016 MDAP portfolio and the 2017 MDAP portfolio.

To sum it all up in one sentence: "DOD estimates that its 2017 portfolio will cost more and take longer to deliver as compared to the 2016 portfolio." But GAO didn't just stop there: it evaluated the portfolio's "buying power" (a term defined as "the amount of goods or services that can be purchased given a specified level of funding"). GAO concluded that "Since last year's assessment, programs in DOD's 2017 portfolio realized a combined \$2.3 billion gain in buying power—meaning DOD is able to buy more goods or services for the same level of funding. Nonetheless, this gain was significantly less than the \$10.7 billion increase in buying power achieved by the 2016 portfolio." So DoD is doing better, but not better than it did last year.

Another conclusion from the GAO report is that newer programs are doing better than older programs. GAO reported "DOD has initiated 25 programs since 2010, when the government implemented significant acquisition reforms. These 25 programs represent 29 percent of the 86 programs in the current portfolio, but only account for about 15 percent of the portfolio's total acquisition cost." Further, GAO identified a possible reason for the better performance of newer programs—

The lower total acquisition cost in the post-2010 sub-portfolio may be due, in part, to the acquisition strategies that these programs have adopted. For instance, acquisition strategies that employ lower-risk, less complex approaches to system development—such as new increments of existing capabilities or affordability -based capability trades—can produce better cost outcomes.

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In other words, GAO concluded that the less innovation involved, the better the acquisition outcome, in terms of cost and schedule.

But that's not all. GAO also noted that programs that "promoted competition by awarding contracts competitively" fared better than those that did not. By "awarding contracts competitively" GAO meant that the prime contract for development, test, or production was awarded through competition rather than via a single or sole-source award. GAO reported "... the information from these programs shows a possible correlation between a reduction in estimated total acquisition cost growth and a program's use of acquisition strategies that promote competition."

Getting back to the knowledge-based acquisition strategies, GAO reported that—

... we observed MDAPs that implemented one or more of three specific knowledge-based acquisition practices had lower cost and schedule growth than those that did not. ... These three practices were (1) demonstration that all critical technologies were very close to final form, fit, and function, within a relevant environment, before starting development; (2) completion of a preliminary design review prior to starting development; and (3) release of at least 90 percent of design drawings by critical design review.

Now we don't disagree with GAO that the three practices above will lead to better program outcomes, in terms of cost and schedule. But where we depart is in the foundational assumption that better program cost and schedule outcomes are more important than innovation. Strictly adhering to the GAO's practices will tend to lead to better cost/schedule performance, but by the time the warfighter receives the final product, it may be too late.

Moreover, GAO has more than three knowledge-based acquisition practices it deems to be appropriate for use on MDAPs. It has five practices related to entering system development.ⁱⁱ It has eight practices related to critical design reviews. It has five practices related to entering production. In aggregate, GAO has 18 knowledge-based acquisition practices that it believes lead to better program outcomes, but which we believe are inimical to innovative and agile weapon system development.

For example, GAO reported "The MQ-4C Triton program recently discontinued use of its

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hydrocarbon sensor—the only critical technology planned for its baseline configuration—after determining that the technology was obsolete and not critical to the aircraft’s mission or safe operation.” The program matured the technology, but by the time the technology was mature, it was already obsolete. Similarly, GAO said of the Next-Generation Jammer—

The NGJ Mid-Band program has seven critical technologies that are all approaching maturity and a stable design. This design stability could be disrupted, however, as technologies continue to mature up to and potentially beyond the system’s start of production in September 2019. ... The NGJ program completed its critical design review in April 2017 and, as of August 2017, the contractor had released 100 percent of design drawings. This current design stability is premised on assumptions about the final form, fit, and function of critical technologies—and how these technologies will perform in a realistic environment—that may not come to fruition as NGJ critical technologies continue to mature.

Even when everything is copacetic (program-wise), entropy enters in the form of parts obsolescence. For example, with respect to the Evolved Expendable Launch Vehicle, GAO reported—

The Air Force may face challenges in supporting additional launches of its heaviest satellites because of parts obsolescence issues and the challenges for commercial-based systems to meet the National Security Space reliability and performance requirements for these missions. ... However, while ULA has enough launch vehicle components to support these missions, if additional missions are required and other, new launch vehicles are not available as planned or projected, some new Delta IV Heavy components will have to be designed and manufactured to replace those that are no longer available from suppliers. The use of such components could involve substantial testing, certification, and additional cost.

In other words, by the time critical technologies are matured sufficiently to enter production, the specter of diminishing manufacturing sources and material shortages from obsolescence gives rise to the need to design, test, and mature additional technologies.

In summary, we believe that while knowledge-based acquisition practices offer opportunities to better manage programs, an undue focus on those practices is inappropriate in an acquisition environment that demands agility and innovation.

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i[□] Interestingly, there does not seem to be a consistently used acronym for “Department of Defense.” GAO uses “DOD” while many within the Pentagon use “DoD.” We’re going with DoD unless we quote from a source that uses the other acronym.

ii[□] (1) Demonstrate all critical technologies are very close to final form, fit, and function within a relevant environment (TRL 6). (2) Demonstrate all critical technologies in form, fit, and function within a realistic environment (TRL 7). (3) Complete system functional review and system requirements review before system development start. (4) Complete preliminary design review before system development start. (5) Constrain system development phase to 6 years or less.