

Sustainment and Logistics in Better Buying Power

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From the first issuance of Better Buying Power (BBP) in 2010, its key sustain-

ment initiative

has focused on Per-

formance-Based Logistics

(PBL). With the updated guid-

ance for BBP 3.0 issued April 9, it is worth expanding the view of these

updated initiatives through the sustainment

prism. This article finds that sustainment perme-

ates the entire set of BBP initiatives and offers sub-

stantial contributions to its overall theme of "Achieving

Dominant Capabilities through Technical Excellence and Innovation." Sustainment also

underpins the earlier focus of BBP on affordability, on should cost, and on smarter ways

to procure services and increasing the professionalism of the workforce. Let's look at how

sustainment does that.

Performance-Based Logistics

For years, the signature sustainment initiative under BBP has been Performance-Based Logistics (PBL). The latest guidance from Under Secretary of Defense for Acquisition, Technology, and Logistics Frank Kendall places additional management emphasis and attention not just on increasing PBL but also on ensuring its effective use. Specific actions include developing common ways to measure PBL effectiveness (including benefits and savings), using those measures to track results, and reporting those results quarterly. Regular updates on PBL implementation

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also will include determinations of and plans for the accessible market by Department of Defense (DoD) Component as well as progress toward those plans. My office will update the *PBL Guidebook* by October 2015 to improve developing, reviewing, approving and contracting for PBL arrangements.

For PBL, the challenge for today is more on “ensuring” effective use than solely on increasing the number. As Kendall noted, in addition to counting PBL arrangements, “We want to make sure that the ones we have are effective, and we will probably increase our use, but we need to do it in cases where it makes sense, and we need to make sure it’s being done well.” PBL provides insight and information that can affect costs and performance throughout the sustainment cycle. Let’s look at some of the ways to do that.

Enabling Innovation in Sustainment

Operational logistics successes of the last 14 years have shown that logistics is a significant U.S. competitive advantage. Maintaining that advantage will require DoD to improve its ability to incorporate logistics technology and process innovation from around the world. Several BBP initiatives can incorporate actions that will help foster innovation in sustainment.

Two of these are removing barriers to commercial technology utilization and emphasizing technology insertion. Expanding access to global logistics innovation can eliminate unproductive processes, increase opportunities for competition and enhance affordability. Specific actions such as taking better advantage of commercial technology refresh cycles can apply to post-production systems as well as systems in development. Technology refresh for components, subsystems and software may offer powerful opportunities for reducing life-cycle costs long after systems have been fielded.

Another initiative that offers potential sustainment benefits is increasing the use of Modular Open Systems Architecture. Under DoD Instruction (DoDI) 5000.02, program managers (PMs) are responsible for applying open systems approaches in product designs wherever feasible and cost-effective. While costs often occur during development, savings from open systems approaches appear in production and in reduced life-cycle sustainment costs, by enabling competition for upgrades, facilitating reuse for additional missions, and supporting technology insertion and software upgrades. Open systems guidance being developed by the Office of the Secretary of Defense (OSD) and the Military Departments will incorporate sustainment goals.

Affordable Sustainment and Should Cost

Affordability remains a core initiative in BBP 3.0. Affordability caps, should-cost based program management, and improved cost estimating have stabilized programs across DoD. The March 2015 Selected Acquisition Reports (SARs) show that, for covered major defense acquisition programs, the DoD gained \$10.6 billion in buying power (paying less in procurement and research and development for the same programs). However, significant elements of overall life-cycle costs have not kept pace with this decline, based on the initial internal logistics cost baseline. In fiscal year 2014, maintenance costs continue to rise as a percentage of total logistics costs, while transportation costs decline (due in part to falling fuel costs). Extending the positive results of affordability cost caps and should-cost program management to sustainment costs is a major focus of BBP 3.0 implementation.

Historical data show that design decisions made in the Concept Phase determine 70 percent of the total life-cycle costs, climbing to 85 percent by Milestone B. This means that, historically, reducing life-cycle costs requires trade-off decisions during system development. But in the recent past, such decisions have been inadequate to control life-cycle costs. In addition, Operations and Support (O&S) costs comprise 60 percent to 70 percent of total ownership costs for most programs, putting a premium on finding ways to lower O&S expenditures during design and development phases.

Systems in design today hold promise for a better future. DoDI 5000.02, “Operation of the Defense Acquisition System,” requires under Enclosure 6 (Life-Cycle Sustainment) that PMs employ a should-cost management and analysis approach to identify and implement system and enterprise sustainment cost-reduction initiatives. Enclosure 6 also tasks DoD Components to:

- fully consider sustainment factors
- reduce O&S cost through system design early in development
- assess product support performance periodically to prevent O&S cost growth
- use system modifications to reduce ownership costs.

Sustainment affordability caps are established at Milestone B, based on a per unit annual cost, but since DoD has been tracking and reporting such costs under BBP for only a few years, a relatively small number of systems have breached the O&S caps.

The majority of annual O&S costs are incurred by systems already fielded, not those currently under development or in production. For these systems, there are fewer opportunities for design-affected changes that will reduce life-cycle costs. OSD Logistics and Materiel Readiness is assessing sustainment models among the military services, to identify cost-reduction opportunities and incentives for lower O&S costs. Success will depend in part on adequate data and reporting to support informed decisions and actions.

Sustainment Information and Data Security

Successful logistics operations have always depended on timely, comprehensive and accurate information. The ideal arrangement for DoD would be an integrated digital product data environment covering product design to product support and fostering decisions with an understanding of their life-cycle cost implications. Such a data environment would help bridge gaps between the engineering and product support analyses and thereby promote affordable system effectiveness via continual trade-offs throughout a weapon system's life cycle.

Even if DoD were to establish such an integrated data environment, better decisions would be undermined by cyber threats. BBP initiatives will help address these problems for sustainment by focusing on strengthening cybersecurity across the product life cycle.

For decades, DoD logistics information systems have been a weak link in cybersecurity, even before the term was used. In part, this is because of the size of logistics databases and the cost to secure them, but it's also because logistics activities need to interoperate with commercial suppliers both within the United States and across the global marketplace. Strengthening cybersecurity throughout the product life cycle is critical for DoD, but it will require action across the global supply chain. BBP 3.0 accelerates those actions, but DoD cannot achieve success without the private sector strengthening its own cybersecurity.

On April 23, 2015, Secretary of Defense Ashton Carter addressed both information systems and networks: "[T]o defend DoD information networks, secure our data, and mitigate cyber risks to military missions, [we need to be] building a single security architecture that's both more easily defensible and able to adapt and evolve to mitigate both current and future cyber threats. This is to replace the hundreds of networks—separate networks—that we now operate in the Department of Defense."




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The loss of critical logistics technical information through cyber vulnerabilities undermines U.S. technological superiority in three ways. First, these losses can help an adversary develop similar capabilities or countermeasures. Second, sustainment costs for U.S. forces will increase, both to enhance data security and to counter adversary developments. Third, increased sustainment costs will reduce funds available for national security technology investments needed elsewhere.

Conclusion

O&S costs are determined by the product support strategy defined in the development phase based upon reliability, availability and maintainability of the product. Increasing reliability and reducing cost requires trade-offs between system performance, availability, process efficiency, human factors and cost to maximize weapon systems operational effectiveness. Additionally, associated support and maintenance requirements need assessing for opportunities to incorporate logistics-related technologies to improve maintainability and reduce O&S costs.

BBP 3.0 emphasizes maintaining technological superiority, and a key component is sufficient resources to enable innovation and modernization. Addressing technology opportunities for sustainment parallel to system design can positively affect the affordability of our weapon systems and provide funds needed for innovation. DoD needs to illuminate the costs and benefits of decisions at every stage of system development, from design to post-fielding. Doing the analysis, providing the information and highlighting gains in reduced life-cycle costs from investments today can lead to the best decisions and trade-offs. 

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