

Business Case Analysis: Policy Insights and Discussion

Best Practice Elements in Performance-Based Life Cycle Product Support Management

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Foreword

Performance-based logistics (PBL) is the Department of Defense's preferred product support strategy to deliver improved weapons systems readiness at the same or lower total cost. Additionally, AFI 63-101 states, "A performance based logistics (PBL) strategy shall be used in accordance with the PBL guidance section in this AFI".

The cornerstone of PBL is the purchase of weapons system sustainment as an affordable, integrated package based on output measures such as weapons systems availability, rather than input measures such as parts and technical services. Simply put, performance-based strategies buy outcomes, not products or services.

Air Force program offices managing a weapons system have to make tradeoffs in the face of finite resources. On one hand, weapons systems should be designed, maintained, and modified to continuously reduce the demand for logistics; this requires investment. On the other hand, logistics support itself respects budgetary constraints; this often drives for postponement of expenditure, no matter how compelling the payback. To succeed at PBL, a program office must integrate these perspectives, investing in the future while providing current support, all the while staying within statutory and budgetary guidelines. And the program office must adopt the viewpoint of a life cycle strategy, in particular providing to the maximum extent possible a stable funding environment, from program inception through retirement.

Using PBL creates a cost avoidance opportunity for Air Force program managers, which facilitates investments in affordability, reliability, and availability when Support Providers with system knowledge and investment-oriented business models innovate to convert cost avoidance into performance gains.

For programs establishing or reestablishing a performance-based product support strategy, the step of documenting their strategy in a Business Case Analysis (BCA) can be daunting. BCA requirements seem complicated and confusing; yet it is a necessary document as a part of the PBL process. Too often we get lost in the complexities of executing a robust BCA, and lose sight of the essential intent of a BCA: a structured and comprehensive strategic review of a product support strategy to provide decision makers with the information required to make a sound decision. BCA's are not tactical exercises.

Introduction

The Business Case Analysis (BCA) is a critical tool in determining the appropriate cost for PBL support. The program is not done with the initial BCA, because follow on assessments are required to ensure the expected outcomes are being achieved during the performance period. A BCA as a deliverable is never finished, because the BCA process never ends during a program's life cycle. It is an on-going work stream.

In December 2008, GAO report GAO-09-41 criticizes the Department for not establishing procedures and ensuring appropriate follow up is performed to validate anticipated costs savings under PBL arrangements. Since that time, as resources and affordability have become more central in program discussions, the BCA has become even more important. The BCA will continue to be the foundational documentation to support product support decisions throughout the lifecycle of the weapon system.

The Product Support Business Case Analysis (BCA) Guidebook was published by the Principal Deputy Assistant Secretary of Defense for Logistics and Materiel Readiness (L&MR) in April 2011. The BCA Guidebook is in response to the 2009 Weapon Systems Acquisition Report Product Assessment Team (WSAR-PSA) report recommendation to clarify and codify policies and procedures pertaining to the use of analytical tools, including BCAs, in the life cycle product support decision making process.

In addition, the DoD Product Support BCA Guidebook supports USD(ATL) November 2010 memorandum "Better Buying Power" by providing thorough financial and non-financial analysis to decision makers so that they can make more informed, affordable choices. The BCA Guidebook provides its users a standardized BCA process and is meant to be introductory in nature.

Unfortunately, there is an entire portfolio of related artifacts that can confuse the discussion. In addition to BCA's, there are Economic Analyses, Analyses of Alternatives, and Estimates of Alternatives, to name a few. They are related, but not interchangeable, with the differences among them somewhat nuanced.

This document is a companion discussion, providing context and applicability of the financially oriented analytical artifacts, to be read in conjunction with the BCA Guidebook, Air Force policy and instructions, as well as the Product Support Manager Guidebook and the various publications from the University of Tennessee developed to help guide the Air Force in Best Practices. The discussions that follow provide greater context and understanding of the BCA and the BCA process, supplementary information intended to illuminate DoD guidance and instruction.

Definitions, Policies, and Procedures

The USAF is good at developing policy. In the case of PBL, the USAF has done a thorough job on the topic. However, the policy is not always consistent and in some cases creates confusion and contradictions.

BCA Definitions

There are a variety of definitions across the DoD enterprise for BCA. The two below come from the USAF instructions and highlight the confusion and contradiction. Despite this confusion, when viewed holistically, the definitions below from Air Force Instruction (AFI) and Air Force Manual (AFM) provide a good starting point for understanding a BCA.

AFI 65-509: Business Case Analysis, defines a BCA as follows: “A business case analysis (BCA), also referred to as a business case or business plan, is a decision support document that identifies alternatives and presents business, economic, risk, and technical arguments for selecting an alternative to achieve organizational or functional missions or goals. The BCA does not replace the judgment of the decision maker, but rather aids that judgment by considering possible alternatives, their costs, benefits, and risks, and the degree to which they meet program objectives, or are either within budget constraints or require additional funding. A BCA can vary in size and scope depending on the requirements of the decision maker or reviewing organization. The purpose of this instruction is to illustrate what a BCA is by comparing it to other analytical products, explain when BCAs are required in the Air Force, advise on when they may be completed even if not strictly required, state the responsibilities of offices involved in completing a BCA, and refer individuals to additional, detailed guidance on how to accomplish BCAs.”

AFMAN 65-510 Business Case Analysis Procedures defines a BCA as follows: “A business case analysis (BCA) is a decision support document that identifies alternatives and presents convincing business, economic, risk, and technical arguments for selection and implementation to achieve stated organizational objectives/imperatives. A BCA does not replace the judgment of a decision maker, but rather provides an analytical and uniform foundation upon which sound investment decisions can be made. The subject of a BCA may include any significant investment decision that leadership is contemplating. For example, a BCA may be used to substantiate the case to invest in a new weapons system; transform business operations; develop a web-based training curriculum; or retire an asset. In general, BCAs are designed to answer the following question: What are the likely financial and other business (non-financial) consequences if we execute this investment decision or this action?”

Both of these definitions are consistent with that offered in the DoD Product Support BCA Guidebook, which says, “The Product Support Business Case

Analysis (BCA) is a structured methodology and document that aids decision making by identifying and comparing alternatives by examining the mission and business impacts (both financial and non financial), risks, and sensitivities. BCAs may be somewhat different from other decision support analyses through their emphasis of the enterprise-wide perspective of stakeholders and decision makers and assessment of the holistic effects impacted by the decision. Other names for a BCA are Economic Analysis, Cost-Benefit Analysis, and Benefit-Cost Analysis. Broadly speaking, a BCA is any documented, objective, value analysis exploring costs, benefits, and risks.”

Policy

AFI 63-101 states in paragraph 3.103.1, “The PM shall utilize and implement a PBL strategy for new Acquisition Category (ACAT) I, IA and II systems, unless otherwise justified by a BCA and approved by the Milestone Decision Authority (MDA). A PBL strategy is preferred on new ACAT III, fielded systems, end items, or commodity acquisition.” In a later section, “For all cases where PBL is being considered as the support strategy, the PM shall perform a BCA to validate that PBL is cost effective, financially feasible and optimizes system readiness. The strategy decision rationale shall be documented and retained by the PM. Reference AFI 65-501, *Economic Analysis* and AFI 65-509, *Business Case Analysis* for more information.”

AFI 65-509 discusses elements associated with economic analysis that distinguish between a BCA and other types of analysis such as Economic Analysis (EA), Analysis of Alternatives (AoA), and Estimate of Alternatives (EoA). The AFI differentiates a BCA by its broader focus on value to the organization from an enterprise-wide perspective; it seeks alignment with organizational goals and has a strategic focus. Thus, a BCA is broad in scope and considers the far reaching implications of organizational change from a corporate perspective. The goal of a BCA is to optimize investment decision outcomes from an enterprise-wide perspective, trading resources to achieve the best possible solution set and to optimize variables from an enterprise-wide perspective. We will talk about what enterprise-wide means later in the paper.

In the course of our research on the AF BCA policy, the team became more familiar with how the USAF manages policy and the associated numbering convention. For this team, the roots of the conflicts and confusion became a little more clear, once we understood that Secretary of the Air Force (Acquisition) SAF(AQ) had responsibility for 63 series instructions and their counterparts in Financial Management (FM) had responsibility for 65 series. Therefore, when 63-101 talks about BCAs they are looking at it from AQ viewpoint versus a pure Financial Management viewpoint. This may be second nature within the AF; however, based on our personal experience details like this sometimes get lost in training.

Procedures

An Economic Analysis (EA) tends to focus on value to the unit or installation, and tends to be more limited in scope, usually dealing with a small number of alternatives. An EA tends to optimize variables at the local level, which could result in sub-optimization at the enterprise-wide level. Typically, an EA is performed for decisions involving a limited scope.

An Analysis of Alternatives (AoA) focuses on the value of a particular system solution, based on the costs and capabilities of that system. It identifies a small set of alternative system platform mixtures to meet the capability requirement needed, and analyzes operational effectiveness relative to cost for the various alternatives

An Estimate of Alternatives (EoA) is an analysis required by OSD Acquisition, Technology, and Logistics (ATL) for selected joint programs. The EoA concept is to bring considerations of capabilities and affordability (costs relative to capabilities) earlier into the acquisition decision making process (Milestone A compared to Milestone B, where fuller program cost estimates are developed). An EoA has some of the features of an AoA but emphasizes affordability, risk, and capabilities. An EoA is similar to a BCA in that an EoA evaluates various alternatives against one another for costs, benefits and risks. Each of these tools is discussed in more detail in various AF Instructions that are referenced in this document.

Air Force program offices managing a weapon system have to make tradeoffs in the face of finite resources. On one hand, weapons systems should be designed, maintained, and modified to continuously reduce the demand for logistics; this requires investment. On the other hand, logistics support itself respects budgetary constraints; this often drives for postponement of expenditure, no matter how compelling the payback. To succeed at PBL, a program office must integrate what sometimes appear to be competing perspectives, investing in the future while providing current support, all the while staying within statutory and budgetary guidelines. In addition, the program office must adopt the viewpoint of a life cycle strategy providing to the maximum extent possible a stable funding environment from program inception through retirement. The BCA is a decision tool designed to support the Program Manager in these Life Cycle decision processes.

For an in-depth exploration of the topic by the Department of Defense, consult the Product Support Manager (PSM) Guidebook, signed and issued by the Assistant Secretary of Defense for Logistics and Materiel Readiness (L&MR) in April 2011 .PDF on the DAU website.

Weapon Systems Acquisition Reform Product Support Assessment Team

The DoD Weapon Systems Acquisition Reform Product Support Assessment Team Report (PSAT) of November 2009 has documented the following findings regarding the current state of BCAs related to weapon system product support.

“Determination of best value support strategies is based on a BCA process that has been consistently criticized by internal and external reports, citing reliance on immature data, inconsistent application, and overreliance on a one-size-fits-all analytic approach that fails to acknowledge differences in criteria, such as life cycle phase, level of planned product support, and availability of credible data.”

The release of the Product Support assessment report is relevant to the Air Forces interest in improving the BCA process required for implementing Product Support Strategies for weapon systems and in particular implementation of Performance-Based Logistics.

The University of Tennessee Team has closely followed the efforts of the IPT to understand the resulting outputs, all of which are cited in the various documents UT has produced. The stated tasking and objectives of the BCA IPT were to provide a standardized process and methodology for writing, conducting and aiding decision making, and provide analytical decision support for a sustainment/ life cycle product support business case analysis (BCA). The IPT was also tasked with providing guidance on the process for a BCA, including how to prepare, conduct, and close out a BCA and provide/identify systems, analytical tools, and data sources that support a BCA preparation.

DoD Sustainment Business Case Analysis Guide Book

The Product Support Business Case Analysis (BCA) Guidebook was published by the Principal Deputy Assistant Secretary of Defense for Logistics and Materiel Readiness (L&MR) in April 2011. The BCA Guidebook is in response to the 2009 Weapon Systems Acquisition Report Product Assessment Team (WSAR-PSA) report recommendation to clarify and codify policies and procedures pertaining to the use of analytical tools, including BCAs, in the life cycle product support decision-making process. The guidebook includes the following discussion regarding the guide book's intent:

“This guide was designed with the Product Support Manager (PSM) as the primary audience; however, it will provide valuable insight to other program offices, budget and business managers, senior decision makers, approval authorities, and necessary stakeholders. A BCA is a structured methodology and document that aids decision making by identifying and comparing alternatives by examining the mission and business impacts (both financial and non-financial), risks, and sensitivities. The BCA concludes with a recommendation and associated specific actions and implementation plan to achieve stated organizational objectives and desired outcomes.

A BCA does not replace the judgment of a decision maker, but rather provides an analytical and uniform foundation upon which sound decisions can be made. The BCA should be a full, fair, and accurate comparison when evaluating alternative strategies and alternative sources of support. A BCA should be prepared for all sustainment and product support

decisions where DoD funds are expended. The subject of a BCA may include any significant investment and directional decision that leadership is contemplating. For example, a BCA may be used to evaluate a decision on whether or not to invest in a new weapons system; transform business operations; develop a web-based training curriculum; for any of the Integrated Product Support Elements (IPSEs); or retire an asset.”

The guidebook will go a long way in providing the missing clarity on BCA preparation that was a constant theme that we heard from the AF Teams during our research. At the end of this document, we attempt to outline the issues that AF Teams identified and how the PSAT addresses the AF issues. Any attempt to perform further research or develop a recommended solution was viewed as non-productive if the PSAT BCA IPT was intending to address the issue within the scope of their efforts.

As discussed, much of our research was performed prior to and to some extent during the development of the PSAT recommendations and our findings very much parallel the outcomes of the PSAT. From our research work and other related PBL support we have had the opportunity to perform an extensive review of many BCAs. Through these efforts we have seen BCAs that we consider to have been very thorough in their analysis and focused on executable Product Support Strategies. It is our opinion that it is inappropriate to point to a particular BCA example as a perfect roadmap. The reason we take this position is that like a PBL a BCA needs to be crafted to address the unique aspects associated with the weapon system.

The use of the business case analysis (BCA) process to make life cycle product support decisions, has been mandated by policy since 2004 when promulgated by USD(AT&L) Memorandum, Performance Based Logistics (PBL) Business Case Analysis (BCA), 23 January 2004. However, in many cases the process of managing a BCA has been plagued with problems, misunderstandings, inaccuracies, inconsistent application, and a failure to achieve the purpose for which it was intended. The issues we have seen in our research include inaccurate data, unrealistic deadlines for BCA completion, and the viewpoint that there is a one-size-fits-all BCA process. This viewpoint can lead to excessive costs when a much less complex economic analysis may have been more appropriate.

From our research and review of existing BCAs there is a consistent focus on finite cost comparisons. This is inconsistent with DoD policy directing a life cycle total ownership cost perspective that provides superior “best value” decision making; and, too frequently ignores Title 10 statutory and other policy factors that can dictate workload allocation regardless of what the best value analysis recommends. Finally, current AF policy mandates the use of BCAs only for PBL product support strategies.

From our research we have found several instances where application of a BCA process has resulted in further confusion or misalignment of BCA recommendations and the actual PSS that could be implemented. One area

is in the preparation of a BCA to support a fielded system. The research in this area supports the conclusions of PSAT report that BCA for fielded systems should put significant focus on the current operational support costs.

To expand on the thought that in effect there is not a cookie cutter approach for BCAs, we will look at fielded programs versus new acquisitions. When comparing the analysis needed for fielded system versus a new acquisition the difference in how to account for existing infrastructure acquired as part of the original acquisition strategy is apparent. Fundamentally, what is similar, is that both fielded systems and a new acquisition will base the strategy on warfighter requirements and assessments of level of repair requirements driven by cost, availability and maintainability concerns. Where the challenges and confusion are more apparent is in the analysis to support decisions on unit manning requirements. A fielded system can base scheduled and unscheduled maintenance on live data relative to the current acquisition strategy. This means that spares inventory levels, types of support equipment, publications and training assets are based on the original ILS approach. For a major weapon system significant money may have been expended to develop the support structure required for stable operations. These costs represent "sunk costs" which are not germane for determining an alternative support strategy. This is in contrast to a new acquisition where the program delineates requirements for Integrated Logistics Support (ILS) and spares acquisition costs and the total life cycle O&S costs as part of the assessment.

Based on the above, BCAs for products that are in different life cycle phases can expect to be different. A BCA for a System or Commodity that has already entered traditional support or that has been under a Contractor Logistics Support arrangement for a significant period would require a different approach to a BCA than a new system that has not reached Milestone B or C. To this end, 63-101 states, "BCAs, for new acquisitions, shall have detailed MS-C baselines that consider reliability and maintainability projections at the major system repairable level. These individual estimates will be instrumental in providing the basis for contractual actions leading to the implementation of the acquisition product support strategy. PBL strategies and implementation will be re-evaluated at appropriate decision points in the life cycle process. Therefore, BCAs will continue to be used throughout the life cycle process with oversight to ensure reassessment at appropriate times, such as life cycle cost (LCC) updates, reduction in total ownership cost (R-TOC) activities and continuous improvement actions."

Participation by personnel knowledgeable of the weapon system requirements in developing and managing the BCA process, to include ensuring the alternatives considered are executable, is a key attribute to obtaining a usable BCA product. Unfortunately, there have been a number of instances where the BCA work has been done by an outside organization with little or no involvement by the PBL team; and, the alternatives that have been addressed in the BCA do not cover the optimal PSS; or, there is a

recommended PSS that can not be executed. To address these disconnects, the government team needs to be prepared to roll up their sleeves and work through the details of the proposed BCA. This effort requires that the weapon system team have a clear understanding of the product support alternatives which are being included in the BCA and influence the alternatives if the team has experience or superior knowledge regarding any support alternatives. We are not advocating that the PBL team do the entire BCA; but, we advocate that the PBL team needs to be the manager or be involved in overseeing the BCA process.

As mandated by the listed references, life-cycle sustainment is a priority for the Department of Defense (DoD) due to historical program life-cycle sustainment performance and the lack of definitive performance metrics. PBL is recognized as DoD's preferred product sustainment support strategy. The DoD 5000 series places responsibility with the Program Manager (PM) for ensuring that the PBL support structure meets the Fleet's Operational requirements and is cost effective as validated by a BCA.

A BCA is best viewed as an iterative process throughout a program's life-cycle because programs continually change and evolve. These changes drive numerous sustainment decisions and performance based metrics approaches. There are many factors that play in achieving a rigorous and robust BCA. In addition to an independent and thorough cost analysis, the risk and benefits assessment needs to be robust. Where robust analysis is particularly important are the tradeoff decisions between investments or placing work on the customer. Particularly, where an investment decisions impacts reliability improvements or increased mean time between failures. There are strong cases where the numbers supported the investment, however, the best life cycle decision is not always made because of gaps in data, incorrectly rationalized data or perceived cost savings in the short term.

Ideally, a BCA should include an Enterprise approach that would ensure active participation by all stakeholders (Customer – Fleet, Resource Sponsor and Program) in order to capture all interests/concerns. If the resulting decision will not directly affect the end-item product/process or customer, the BCA may not require an enterprise approach. The term "enterprise-wide" should typically be understood to mean a cross cutting practice that will affect the entire Air Force. For instance, a programmatic decision that will impact program execution, but not directly affect the end-item can possibly be completed within the program. If the end-item, customer or resources are directly impacted, a more holistic BCA approach, involving all elements of the Enterprise would likely be necessary. In addition to a comprehensive cost analysis, risks and benefits assessment, a clear understanding of product/system's Capability Description Document (CDD) or Capabilities Production Document (CPD) is necessary.

The CDD or similar document is the foundation for constructing all aspects of defining the product or system's objectives throughout the life-cycle. These product or system objectives are referred to as "requirements" within the

confines of the BCA guidebook. Undefined or incorrectly defined BCA requirements will potentially result in ill-defined conclusions and recommendations. In addition, clearly defined and understood requirements will assist in defining good metrics to support performance based criteria for product life-cycle support strategies. The performance based metrics can be contractually agreed to, or delineated within an organic structure of life-cycle support. The agreed to metrics should be negotiated utilizing the Enterprise approach by developing a Performance Based Agreement (PBA).

As a final thought, the BCA should not detail exactly how each organization should carry out their responsibilities because the objective of PBL is to incentivize support providers to find innovative ways of doing business. However, the BCA requires a notional concept of how each organization would perform their responsibilities in order to develop a baseline cost. This documentation is important in order to develop performance standards used in performance-based contracts. Therefore, the business processes should be developed with input from the potential support provider(s) (both commercial and/or organic). This is where some of the other economic analysis tools can come into play. As an example, an AoA could be performed to help support the decision to establish a Public Private Partnership (PPP) and the type of PPP to include Work Share or Direct Sale.

Defense Acquisition University thoughts on Business Case Analysis

In working with the Defense Acquisition University, we have captured the following BCA Guiding Principles associated with BCA development.

Product Support Strategy (PSS) Business Case Analysis (BCA) Guiding Principles

1. All PSS BCAs will be based on warfighter stated performance requirement(s), documented in Product Support Arrangements (PBAs).
2. PSS BCAs will be conducted to assess changes from existing product support strategies for legacy systems and to support the product support strategy for new weapon systems. Over time, BCAs will need to be updated or repeated to validate the approach taken and to support future plans.
3. PSS BCAs will evaluate all services or activities needed to meet warfighter performance requirements using “best value” assessments. Best value is the expected outcome that, in the Department’s consideration, provides the greatest overall benefit in response to requirements. The assessments will include cost per output, performance measures, capitalization/asset ownership, size of footprint, reliability growth, life cycle costs, Diminishing Manufacturing Sources (DMS) management, obsolescence/obsolescence mitigation plan, technology insertion, and risk management. The value added in terms of benefits and outcomes of all services and activities will be identified.

4. Initial PSS strategies for ACAT1 programs will be developed prior to Milestone B, including definition of the metrics that will be used to define a program's ability to meet future logistics and operational performance requirements. These strategies shall provide the foundation for detailed Business Case Analyses to be completed prior to Milestone C and/or contract award that are based on the detailed design. BCA estimates shall be accomplished at significant subsystem/repairable item levels that provide the information necessary to initiate cost-effective maintenance and repair actions.
5. PSS BCAs will continue through life cycle process with oversight to ensure reassessment at appropriate trigger points, including life cycle costs (LCC) updates; Reduced-Total Ownership Costs activities; and/or continuous improvements actions. The Military Services will evaluate PSS performance at appropriate decision points.
6. The cost and performance baselines for legacy systems will be determined by historic experience and costs. The cost baseline will include all appropriate government and/or contractor costs, including indirect costs, overhead, and handling fees. Consideration shall be given to the cost, performance, and risk aspects of all 10 elements of Integrated Logistics Support (ILS). For new system BCAs, detailed Milestone C baselines shall be established considering reliability and maintainability projections at the major system repairable level. These individual estimates shall be sufficiently detailed to provide the basis for contractual actions leading to implementable support strategy actions. Although these estimates shall sum up to the validated Service cost position, Cost Analysis Improvement Group (CAIG) risk concerns must be considered within the overall process.
7. PSS BCAs will reflect operational requirements and existing DoD guidance for contractors on the battlefield, 10 U.S.C., Section 2464 (the necessity for the Department to maintain core logistics capabilities), 10 U.S.C., Section 2466 (the limit on contracting for depot level maintenance), ability to synchronize with the Defense Transportation System, and flexibility to support contingencies, and surges. The BCA will specifically consider the full range of minimum and maximum essential logistics capabilities (peacetime to full mobilization requirement), existing infrastructure, and common consumables support.
8. PSS BCAs will include risk assessment of expected performance, supply chain responsiveness, and surge capabilities. Consideration of performance and cost risk will explicitly consider contract versus organic risk management, financial accountability, and recovery actions. The risk assessment should address the probability of and confidence level of the following events occurring: poor performance, cost growth, extended labor disputes, and change of Product Support Integrator/Provider (PSI/PSP).

9. For all PSS contracts, warfighter requirement(s) will be linked to metrics and metrics to contract incentives. For all organic PSS product support integrators (PSIs), warfighter requirement(s) will be linked to metrics and metrics to PBAs between the Program Manager and the organic PSIs.
10. PSS BCAs will be developed using information provided by all appropriate product support stakeholders, including government and industry providers. In order to maintain a competitive environment, industry participation will be determined in accordance with the Federal Acquisition Regulation (FAR).
11. PSS BCAs will be conducted using analytic tools approved by the Services. In understanding PBL implementation strategies, it is critical to know who the players are for the PBL program. As PBLs work across many of our traditional product support disciplines, implementation of PBL is a Team approach. A good PBL team will consist of a cross-functional group of both private and government stakeholders.
12. It may not be necessary to have every one of the stakeholders on the team; each team should be developed with the program and desired outcomes in mind. The DoD Program Manager Guidebook outlines the key roles of a PBL program in detail and can be used as a reference point. The following is a discussion of the key players and their roles in a PBL.

Attachment I is a BCA Template that is from the DAU website which covers the general format for a BCA. The Template may be helpful for those that are just getting started.

In-Service Systems

As a final thought, the PBL strategy development process for in-service systems is covered by the same policy and requirements as new systems. However, there are several characteristics unique to implementing a PBL strategy for an in-service system. The following characteristics associated with in-service systems should be considered during implementation.

1. Most in-service systems are supported through traditional organic processes, and, therefore consideration of product support alternatives often leads to a strategy that is focused on providing improved supply support through a single provider. Commercial/Organic partnerships can be a key element of these arrangements.
2. Implementing design changes that reduce the support requirement might be inhibited because the system is already developed and fielded. Modifications to reduce support requirements, reduce logistics footprint and/or reduce TOC not only would be required to be substantiated through a BCA, but would also be subject to overall program modernization priorities and may require configuration management considerations.
3. More extensive cost and performance data should be available in order to perform a BCA and identify a preferred alternative support strategy. Cost

and performance data should be evaluated at the system, subsystem, and/or component level to assist in identifying PBL candidates. The availability of this data also facilitates the development of a system cost and performance baseline within the BCA.

4. Current actual support costs should be the baseline used for comparison purposes in decision process of whether to implement a PBL strategy. The documentation of the current “as is’ costs compared to other alternatives gives a clear understanding of whether improvements support that might be afforded under a PBL would be cost neutral or result in either savings or added costs.

The following discussion addresses the notable issues that we identified in our research.

Perception vs. Reality

The AF has developed extremely detailed policy regarding the requirements surrounding BCAs and Economic Analysis. Even with this detailed policy the AF Teams are struggling to define what they need to address in the actual structure of a BCA. In addition, the concept of a BCA is that it should not be a cookie cutter document. However, the lack of specific guidance can create an overwhelming barrier in getting started; or, the perceived need to turn to Industry to conduct the BCA analysis.

- Perception: A BCA is a go/no go decision document; or, misunderstanding that BCA should be Strategic versus Tactical analysis.
 - Reality: The BCA provides the leadership with the factual documentation that supports product support decisions. As the USAF increases training and gains experience in the BCA process, awareness of how to use a BCA for optimal product support decisions will continue to improve.
- Perception: A BCA does not address most likely or a logical product support strategy.
 - Reality: BCA must take that step that identifies the best course of action for the product support strategy given the current assumptions. Addressing these disconnects means the government team needs to roll up their sleeves and work through the details of the proposed BCA. This effort requires that the weapon system team have a clear understanding of the product support alternatives which are being included in the BCA and influence the alternatives if the team has experience or superior knowledge regarding any support alternatives

- Perception: BCAs were based on the numbers and outcomes; the results of the BCA were forced to support a perceived “to be” appropriate PSS.
 - Reality: From our research we have discovered that this is a training and experience issue. Familiarization with the policy should clarify this confusion.
- Perception: Confusion regarding differences between EA/AoA/EoA and BCAs.
 - Reality: As in the earlier note, our research into this issue indicates that this is a training and experience issue. Familiarization with the policy should clarify this confusion.
- Perception: There are a host of data problems including data accuracy, quality, and availability.
 - Reality: The BCA should not be viewed as finite decision document; but, is intended to be a tool to support decision making, the PM needs to apply management discretion. Understanding the strengths and weaknesses of the data used should weigh in the application of management discretion. Since a BCA should be revised over time, there are opportunities to refresh the information with more accurate data.
- Perception: Legacy Systems will not support a performance-based strategy.
 - Reality: We feel that the cost and performance baselines for legacy systems should be determined by historic experience and costs. The cost baselines should include all appropriate government and/or contractor costs. Consideration should also be given to the cost, performance, and risk aspects of all 10 elements of Integrated Logistics Support (ILS). Any changes in investment strategies for facilities or product reliability improvements should be included in the BCA.
 - Reality: Although the AF policy states that, “A BCA can vary in size and scope depending on the requirements of the decision maker or reviewing organization”, further clarification would be beneficial regarding a BCA for Legacy Systems. The PSAT BCA IPT does not specifically address this clarification in their draft report. We have submitted a comment with a suggestion that OSD include such a discussion in the final report.
- Perception: No BCA performed.
 - Reality: In most cases the situation of no BCA performed to support the PSS was associated with PBL efforts that had

been in place for a number of years. More current efforts seemed to be following the current policy. We view this issue as a training and experience issue. Familiarization and enforcement of the policy should clarify any potential confusion.

In closing, we recommend AF AQ monitor closely the outcome of the PSAT DoD Sustainment BCA Guide Book and modify/address the current policies governing BCAs in the AF in order to be aligned with the new OSD guidance.

References:

AIR FORCE INSTRUCTION 63-101, 17 APRIL 2009, ACQUISITION AND SUSTAINMENT LIFE CYCLE MANAGEMENT

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