Performance-Based Logistics Perspective
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Since 2000, the Department of Defense (DoD) has consistently directed that Performance-Based Logistics (PBL) be the preferred acquisition and sustainment vehicle. It is widely believed that PBL solutions offer the best overall construct for long-term sustainment support of systems and subsystems. Put simply, ever-tightening constraints on budgets and resources have forced reconsideration of traditional support models. The growing need has been to identify support constructs that squeeze as much system readiness as possible out of limited budgets.

As Exhibit 1 illustrates, the goal is to move the readiness/cost ratio as close to the curve as possible. The PBL construct is the preferred method for achieving that goal.

Although DoD directives have stipulated PBL as the preferred acquisition construct, incorporating true PBL solutions throughout the branch services has not trended as quickly as was envisioned 5 years ago. In part, this is due to common barriers that prevent incorporating a PBL solution for weapon system sustainment:

- Regulation and practicality usually require a mix of commercial and government support in the PBL construct. Aligning government and commercial organizations under a PBL construct is difficult because working relationships that limit the PBL provider’s empowerment to integrate the functional areas of support (inventory management, maintenance management, and technical management) will limit the potential success of the PBL arrangement.
- (“Colors of Money”) Total system or subsystem support will often fall under more than one funding source.
- Systems are often supported by a number of original equipment manufacturers (OEM). Developing a PBL construct with clear competency, accountability, and cost advantages versus transactional support constructs may be difficult.
- PBL support may be radically different in approach and construct from traditional government support. Traditional practices, processes, and support cultures may require significant change to successfully incorporate PBL solutions.

The structural and cultural impediments to more widespread PBL incorporation can be overcome only with a clear understanding of how PBL arrangements improve performance and promote better efficiency. Once clear
understanding exists, it will then be possible to focus on the critical issues that prevent success. The PBL value proposition is the same for any PBL support construct.

**Incentive Alignment**
- A PBL support strategy must align the incentives of the support provider(s) with the performance requirements of the system. These incentives encourage integration that rewards the support provider(s) for improving support efficiency while meeting system performance requirements—creating a “win-win” relationship.
- Support providers must be empowered to integrate. Organic partnerships, “in theater government support,” and other areas outside the support provider’s control must be carefully set up and managed to ensure that empowerment to integrate is not hindered. The government and support provider(s) have an interest in ensuring strong partnerships.

**Competency Advantage**
- Support providers must be qualified and have a clear competitive advantage for providing the support elements and integration of the functional areas of support: inventory management, maintenance management, and technical management.
- Traditional support and PBL options must be thoroughly explored and constructed before data analysis can begin (done to ensure that the solution with the greatest competency advantage is chosen).

**Shift to Performance Management**
- The success of PBL implementation must be monitored and refined. The Government’s oversight role becomes one of performance management rather than transaction management.

**Critical Concepts for Successful PBL Incorporation**
- PBL definition
- PBL value proposition: improved integration
- Importance of integration
- PBL constructs have an inherent integrative advantage
- Common PBL misconceptions
- Keys to successful PBL implementation
- PBL implementation steps

**PBL Definition**
PBL can be defined as follows (see Exhibit 2):

- Accountability versus control
- Incentives instead of specification
- Performance management instead of transaction management.

PBL is shifting the active management of sustainment from the organic acquisition/program manager to the support provider. It is buying results or outcomes instead of initiating and managing transactions. When buying inventory management, maintenance services, or technical services transaction by transaction, the decisions of what, when, and how to buy are left to the customer. Under a PBL, the support provider decides the what, when, and how for weapon system support. In exchange for this management control, the provider is held accountable to the warfighter’s requirements and motivated to optimize costs and the overall logistics footprint needed for achieving those requirements. If costs and logistics footprint improve while the warfighter’s requirements are met, the customer and provider are successful together—“win-win.”

**Exhibit 2**
*Performance Management*

<table>
<thead>
<tr>
<th>Warfighter</th>
<th>Set requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Manager</td>
<td>Facilitate requirements and manage performance</td>
</tr>
<tr>
<td>Product Support Integrator</td>
<td>Provide support</td>
</tr>
</tbody>
</table>

Source: Booz Allen Hamilton
A key point to consider and understand when exploring a PBL alternative is that it is a fundamental shift of management control away from the Government to the supplier. In exchange for this shift in control, the Government is able to impose a much higher level of performance accountability on the supplier than under traditional support constructs. The Government imposes output requirements instead of support criteria on the supplier. In short, the Government expects output requirements, but it does not tell the supplier how those outputs will be achieved. This is the fundamental change from traditional logistic support constructs.

Some commonly heard supporting arguments for PBL arrangements are that they incorporate commercial best practices, that PBLs provide better focus on what matters for the weapon system, or that they remove “fluff” or non-value added effort and expense. These arguments, however, are vague and do not provide insight as to how and why a PBL arrangement can be more successful than traditional support. Why can’t traditional support incorporate commercial best practices? Why can’t traditional support develop metrics that focus on what matters and that eliminate “fluff”? What is the key value proposition of PBL?

**PBL Value Proposition: Improved Integration**

The key advantage of a PBL construct is that it creates an inherent incentive to integrate the functions that support the weapon system. These incentives start with a support provider having a competency advantage to integrate. The suppliers’ incentives are aligned with the needs of the weapon system. Finally, the Government’s role becomes a manager of performance, responsible for monitoring outcomes and ensuring alignment between the warfighter and the supplier. Exhibit 3 illustrates integration of the PBL value proposition.

**Importance of Integration**

Systems or subsystems that lend themselves best to PBL support constructs are those whose support relies heavily on all three functional elements of support—i.e., highly complex systems. Because all three elements are essential to system readiness, integration plays a key role in developing and improving efficiencies. An example could be an advanced gas turbine airplane engine. Gas turbine engines are technical marvels. These systems are composed of thousands of parts, many of which operate under extreme temperatures and pressures. The effective technical management of gas turbines is complex and must be highly proactive. New part manufacturing times can extend into years and maintenance requirements can routinely take several months. Clearly, efficient integration of the technical management, inventory management, and maintenance management of such a system is highly desirable. As illustrated in Exhibit 4 (see page 4), the long-term successful management of any of these elements is dependent on strong integration with the others.

Systems that are not technically advanced would not benefit from the advantages of a PBL construct for sustainment support. A Jeep might be an example of this. Once the design phase of a Jeep is completed, the parts supporting the Jeep will not undergo significant technical change over time. This eases parts
forecasting and obsolescence concerns, which are further eased by relatively short repair and new part manufacturing time. This is not to say that sound management and good sourcing strategies are not needed for the sustainment of Jeeps. It suggests only that a PBL construct does not have an inherent competency advantage over a traditional support construct.

PBL Constructs Have an Inherent Integrative Advantage

It is not impossible to create alignment, establish competency advantage, and shift to performance management through organic constructs; however, the profit/loss of a commercial contractor provides a means for the incentive to be powerful and to be sustained through the life cycle of a weapon system. Furthermore, organic supply chain management and product support organizations are responsible for multiple systems and report through separate and distinctive command structures. Each reacts to the budget and initiative pressures of its own command. Over time, these pressures create significant barriers that prevent consistent incentives to integrate. In addition, short-term funding constraints or focused initiatives imposed on an organic provider supporting multiple systems force that provider to prioritize support—favoring the needs of some systems over others. Over time, prioritization—even if efficiently managed—will result in a suboptimal investment in capability, capacity, supply, and technical development. Integration supporting each weapon system gives way to decisions that best support the interests of the functional organization. The requirements of the weapon system cannot always come first.

Under a traditional transactional approach, even the contractor logistic support (CLS) elements of the overall logistic solution are simply tasked with meeting the criteria of the transactional requirement. These elements do not have a business interest in system performance. Under PBL, carefully thought out metrics that establish acceptable performance of the system are combined with payment terms that reward the support provider for meeting the metric requirements of a successfully supported system.

An example in which organic support does not naturally lend itself to integration is that each organization establishes an annual budget. The incentive is to provide support within the established budget (see Exhibit 5 on page 5). If costs are low, managers are encouraged to seek investment opportunities regardless of whether they are needed. Coming below budget results in money being shifted to other programs that are short of funding. If costs are running high, managers are motivated to postpone needed investment to the next funding year. Long-term thinking about improving support efficiency gives way to short-term constraints.


**Exhibit 5**

Incentives to Integrate Under Traditional or PBL Approach

<table>
<thead>
<tr>
<th>Incentives to Integrate Under Traditional Approach</th>
<th>Incentives to Integrate Under PBL Approach</th>
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</thead>
<tbody>
<tr>
<td>• Government manages design change and overall engineering support</td>
<td>• Support provider manages design change and overall engineering support</td>
</tr>
<tr>
<td>• Government provides logistics support providers funding to make changes</td>
<td>• Support provider invests in changes that improve system readiness or reduce cost</td>
</tr>
<tr>
<td>• Support provider is only required to meet Statement of work (SOW)</td>
<td>• Support provider is accountable to downstream system performance</td>
</tr>
<tr>
<td>• Support provider is not accountable to downstream system performance</td>
<td>• Support provider is incentivized to integrate the supply chain</td>
</tr>
<tr>
<td>• Support provider is not incentivized to integrate the supply chain</td>
<td>• Support provider is incentivized to integrate supply chain</td>
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</table>

Source: Booz Allen Hamilton

**Organic PBL**

Organic management of weapon systems can be and has been successful. It is possible to restructure working relationships under support agreements between organic support providers and achieve improved system performance. However, the constructs must adequately address the core requirements of a successful PBL:

• Incentive exists for the support provider to integrate the functional areas of support.
• The support construct must have a competency advantage over alternative options.
• Overall management of system support must shift to performance management.

**Common PBL Misconceptions**

**Government Accepts Higher Cost Risk Under a PBL Structure**

It is commonly believed that the Government assumes increased cost risk under PBL implementation; however, in a true PBL arrangement, the opposite is the case. There is confusion because under a PBL vehicle, the Government extends management control in exchange for service provider accountability and better cost predictability. Different contract types will vary the amount of cost risk shifted to the provider; under a true PBL construct, the support provider will assume more cost risk than under a traditional construct.

**Performance Contracts Mean PBL**

There is no accurate record of how many PBLs have been implemented to date because the label PBL has often been applied to traditional contracts with incentive clauses. Further, some PBL contacts are not labeled as PBL (e.g., total systems support). A performance contract alone (e.g., a nonintegrative cost reimbursable contract with incentives) is not a PBL. An example would be an inventory management contract. The supplier is tasked with inventorizing parts and providing the parts as required. The supplier is reimbursed for costs and is provided an incentive bonus if a customer wait time metric is met or exceeded. The supplier is not required to manage all the elements affecting customer wait time. The metric is attained only if other logistics elements meet their requirements, in which case the supplier will receive the bonus simply for being lucky. This is not PBL.

**PBL Support Cannot Apply to Subsystems**

Most major weapon systems are supported by several OEMs. It might not be possible for a commercial support provider to develop a competency advantage over the Government when managing several sub-vendors. Fortunately, total system support, albeit attractive, is not required. The Government can assume the role as product support integrator (PSI) as long as support providers managing subsystems have enough control to integrate the support of the subsystem. The integration of workload allocation can be to the system, subsystem, or component level. Workload allocation to the lower level could even be encouraged because it becomes easier to foster competition and ensure the competency advantage at these lower levels.
A PBL solution is not only possible but also the preferred alternative as long as—

- The logistic support for a system or subsystem or component can be integrated.
- The support construct has a competency advantage over alternative options.
- Performance management can be imposed.

**Keys to Successful PBL Implementation**

**Alignment of Supplier Incentives With Warfighter Requirements**

As stated earlier, the most basic advantage of a well planned PBL implementation is alignment of the performance requirements of the system or warfighter with the incentives of the support provider. It starts with a support construct that has an inherent competency advantage for integration. The support provider is then motivated to leverage its competency advantage and improve overall integration. Better integration is the key to improved system performance at reduced costs.

**Competency Advantage**

The PBL support provider must have a clear and demonstrated capability advantage that can deliver technical management, inventory management, and maintenance management more efficiently than the alternative support constructs. Incentive without a competency advantage is useless. Typically, the competency advantage in a PBL construct is the result of superior engineering and technical knowledge of the OEM or system integrator (thorough background and knowledge of design intent is a powerful advantage). Integration is the key to a successful PBL arrangement, and the technical knowledge of the OEM is the most difficult competency to duplicate. Consequently, most successful PBL constructs include the OEM as a major partner.

**Empowerment of Support Provider**

Empowering the support provider means that the support provider makes decisions that the Government once made. Before selecting a PBL strategy, the Government must make an honest assessment of how much control it is willing to and can relinquish to the PBL provider. The Government must understand that the more control it retains, the less ability the PBL provider will have to effect changes that improve system performance and reduce cost. Without empowerment, the support provider will be unwilling to accept the level of accountability that translates to its acceptance of greater risk.

**Title 10—Core Requirements, 50/50 rule, etc.** Title 10 is specifically where most “barriers” to PBL come in to play. Regulatory requirements specifying “50/50,” “Core,” and “Battlefield” considerations are called PBL barriers and constraints because they are requirements of retaining government control over portions of the product support functions and processes. How the support provider and government relationships are structured is critical because these requirements limit the empowerment of the support provider to manage integration.

Congress has enacted numerous statutes that place controls on what actions the DoD can take in using commercial sector maintenance capabilities. Requirements are as follows:

- DoD must maintain core logistics capability to perform maintenance and support of mission-essential equipment (Title 10, Section 2464).
- Not more than 50 percent of the funds available to a military DoD agency in a fiscal year for depot-level maintenance and repair workload may be used to contract for performance of this workload by nonfederal government personnel (Title 10, Section 2466).
- Existing depot-level maintenance or repair workload valued at $3 million or more must be neither contracted out nor moved to another depot-level activity without using public and private competition procedures or merit-based selection procedures (Title 10, Section 2469).

Because maintenance is a critical aspect of support integration, the support provider’s ability to effectively work with organic depots is a key area of concern. If the support provider cannot effectively partner with the depot, then the PBL construct cannot effectively integrate.
Regulation Under Title 10, Section 2474. This regulation encourages public and private partnerships to meet core and 50/50 requirements. The success of a PBL largely depends on how well the partnerships facilitate the support provider’s ability to integrate all the support functions.

A true PBL construct empowers the provider to manage three functional elements of support: inventory management, maintenance management, and technical management (e.g., what gets repaired, what gets replaced, how to repair, how to replace, and what needs to be upgraded).

Performance Management
In managing a PBL construct, a key role of the program manager is to act as the facilitator between the warfighter and supplier. The Government agrees to an appropriate level of warfighter readiness, passes on this requirement to the supplier(s), and becomes a manager of performance rather than a manager of transactions.

Performance Management Requires Addressing Budget Flexibility
The operations and maintenance (O&M) budget is subject to increases and reductions annually. Performance management is undermined because varying annual budgets limit long-term investment decisions that optimize costs over time. Existing DoD budget realities, however, require optimizing costs in the current year. Under traditional organic support, program managers with multiple system oversight and/or the commanders of the major systems commands have the flexibility to reallocate money depending on the new O&M budget and the unique demands of each system. PBL contracts limit that flexibility because PBL costs are driven by the performance demands of the weapon system—not by the latest approved O&M appropriation.

Equal Comparison Between Traditional Support and PBL (“Colors of Money”)
The funding sources that pay for all of a system’s support elements might not be considered in their entirety when transferring from organic to PBL support. This leaves the possibility that the PBL supplier might be asked to assume management costs that are not part of the comparative business case analysis (BCA) because these costs fall under funding sources outside the government entity that is negotiating the PBL contract. Alternatively, it leaves the possibility that key processes important to overall integration are left under traditional management and not partnered with the service provider. This issue must be addressed in the PBL construct and in warfighter metric development because support provider accountability to higher level system metrics could become impossible to establish.

Data Requirements for PBL Must Be Understood and Managed
One of the most significant hurdles to overcome when implementing PBL arrangements is establishing a government support provider agreement on the projected long-term support profile of the system (what the technical management, inventory management [e.g., spare parts consumption], and maintenance needs of the system will be over the long term).

Note that the data requirements and ongoing data management required under a PBL arrangement are also needed under any support construct—traditional or otherwise. As a result of the contractual arrangement between the Government and the support provider, this data management task requires significant rigor. The contractual agreement and incentives of the PBL drive better and more thorough data management requirements and data collection practices. The data itself (e.g., system performance data, maintenance data, and cost data) is the basis for managing integration, and the initial rigor of evaluating and then managing data helps further the competency advantage of the PBL construct.

Without thorough data analysis and modeling as well as good data collection and reporting practices over time, it is difficult to not only construct a successful PBL arrangement but also effectively support the system under any support construct. Strong data analysis is critical because it—
Supports comparative BCA to identify constructs and processes that have a competitive advantage over other support construct alternatives. The BCA can also be the foundation for an agreement between the support providers (including the PSI) and the Government (and between the program manager and the warfighter).

Enables establishment of performance metrics that support system mission requirements at an affordable and predictable cost.

Is the basis for effective integration (e.g., prioritizing technical initiatives, make versus buy decisions, efficient shelf inventory levels).

A key part of the data analysis is to develop a shared understanding of what is required to support the system to ensure that the BCA compares apples to apples. This shared understanding is also necessary to enable the effective negotiation of a performance-based agreement (PBA). If the necessary data is unavailable, the PBL strategy should include a transition period in which the data is developed and maintained.

The complexity and value of this step cannot be overstated. Projecting the durability of any complex technical system over several years requires sophisticated modeling and simulation analysis. Effective data analysis and data collection practices are the foundation for optimizing system logistics support.

Change Management (i.e., Overcoming Cultural Resistance to PBL)

PBL approaches may bring about significant change. How well that change is managed is critical to the success of the PBL contract.

Shifting from transactional management to performance management could be a significant change in the job requirements of organic support personnel. Program managers often must shift their focus from managing the needs of systems and subsystems to managing suppliers (and supplier relationships) and performance outcomes. Furthermore, the program office might be uncomfortable with the level of control that is shifted to the PBL support provider and with developing and using a very different skill set.

The shift in management focus brings about a shift in the business rules that dictate government procedures concerning supplier management. The policies, procedures, and guidelines that dictate roles and responsibilities must change to reflect performance management rather than transaction management.

A commercial PBL support provider will have different expectations and will desire a much closer relationship with its organic partner than what is customary under the traditional construct. Organic management could resist the perceived threat to its autonomy. The key is to promote insight versus oversight on the part of the organic base.

The support provider has final authority on investment decisions that affect durability. Again, this shift in control might represent a significant culture shock to government support personnel who are accustomed to traditional transactional management.

PBL Implementation Steps

All steps are carried out with an eye to developing a support solution that—

- Aligns the system requirements with the incentives of the support provider
- Has a competency advantage over alternative support constructs
- Incorporates performance management.

(The Defense Acquisition University [DAU] articulates a “PBL Implementation Model.” The DAU approach is not inconsistent with the steps below.)

Strategic Planning

A thorough review of the traditional support construct (what will change regardless of whether PBL will be implemented) will provide the baseline.

- Conduct a thorough review of warfighter requirements (identify the key metrics and level of performance actually needed to meet mission requirements).
• Construct and describe PBL options with a focus on competitive advantage and incentive alignment.

• Establish warfighter-needed performance metrics and desired support provider payment terms. Negotiate program manager (PM) to warfighter PBA; then, PM to PSI PBA(s); and finally, PSI to product support providers’ PBAs.

Thoroughly preparing for the correct approach to data analysis and BCA development is critical. It should begin with establishing the comparative model (usually the traditional transaction approach, a.k.a. baseline). The baseline should incorporate all intended organic changes. It makes little sense to compare a potential PBL construct with an outdated organic construct. The comparative model should include all cost elements that could be shifted to PBL regardless of funding source. The warfighters’ requirements should be explored for applicability to mission requirements. Metrics that support warfighter’s requirements are then formulated. Concurrent to this effort, possible PBL constructs are explored with emphasis on ensuring that the potential support provider(s) has an expected competitive advantage. Integration constraint issues should be addressed with potential support provider(s) involvement. The BCA process should be performed iteratively throughout the acquisition life cycle and used as a tool to ensure sound business decisions.

**Life-Cycle Support Projection**
A system support profile should be developed with potential support provider(s) participation. Projections include forecasts of part consumption, maintenance capacity and capability needs, and technical management resource requirements.

**Business Case Analysis**
Compare alternatives down to the management of all required transactions and processes. The transactions are driven by the life-cycle support projection. Assumptions in the BCA must be clearly stated along with an assessment of the integrity of the support data. The BCA must highlight the inherent risks of each alternative. The BCA will include subjective assessments, along with the quantitative analysis. The BCA includes identification of entities, feasibility of approach, tangible/intangible benefits, and affordability. Decisions must incorporate a full appreciation and understanding of the assumptions and the subjective assessments.

**Change Management Planning**
Develop plans for addressing cultural and organizational issues arising from the shift to PBL performance management. This requirement is often viewed as “soft” and not critical. It is, however, the most frequently sighted concern of government employees undergoing a reorganization driven by PBL incorporation. The functions of the program office undergo dramatic change when PBL arrangement is fully implemented. Government support personnel must fully understand their new roles and responsibilities.

**Negotiate PBL Contract**
Negotiate the PBL contract with emphasis on promoting support provider and organic partnering. In addition, the contract must clearly define performance metrics and the terms and conditions of how performance will be managed.

**Ongoing Management**
Proactively measure the expected performance of the PBL construct against actual performance. This step verifies the competency advantage of the PBL arrangement and provides the foundation for a fair and reasonable renegotiation when the contract expires. If the actual performance does not meet expectations, this step will provide the support for developing alternative support constructs. Note that it is not intended that exit criteria or an off-ramp strategy be necessary, but without a plan, the provider will have significant negotiating leverage and the Government will not have the option to pursue a better support construct.
Conclusion
PBL implementation is a highly difficult task but considering the complexity of logistic support planning that must take place anyway, incorporating even a small degree of PBL support in the overall logistics solution of a weapons system will have benefit.

Key items to consider are as follows:

- Incentive Alignment
  - A PBL construct must align the incentives of the support provider with the requirements of the warfighter or subsystem.
  - Support providers must be empowered to integrate. Organic partnerships must be carefully developed to ensure that integration is not hindered.

- Competency Advantage
  - Support providers must have a clear, competitive advantage for managing and providing the support elements and integrating inventory management, maintenance management, and technical management.
  - Traditional support and PBL options must be explored thoroughly and constructed before data analysis can begin.

- Performance Management
  - The Government’s role becomes that of managers of performance rather than managers of transactions. Although the Government is still ultimately accountable for the warfighter, it meets this accountability by managing supplier performance.

If appropriate and implemented well, a PBL construct will contribute to the continual optimization of the logistic support elements while meeting the warfighter’s required level of readiness.

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Contact Information:

MCLEAN

Mike Jones  
Officer  
703-902-3833  
jones_mike@bah.com

James Beggs  
Associate  
703-902-5175  
beggs_james@bah.com

Benjamin Ertel  
Associate  
202-548-3727  
ertel_ben@bah.com

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