Top 10 Attributes of Performance Based Logistics Strategies for Weapons Systems Product/Service Support

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DoD has elevated priority on the performance of weapon system product support over service life to bring higher levels of system readiness through integrated system teams and direct accountability.

Performance-based logistics changes the metrics gauging what is the effectiveness of the logistics system is in order to drive substitute approaches to assessing utility of the system. The traditional approach has been to measure outcomes in the logistics system by physical output, including factors such as number of weapons and platforms repaired, the amounts of materiel moved, the hours of services provided and number of replacement parts acquired.

Performance-based logistics metrics outcomes in terms of how the system meets desired performance parameters. Specifically, these performance parameters include the efficient identification of field-level Troop requirements and timely delivery of the needed materiel and services to field-level Troops.

Site Visit Executive must verify field-level Troop requirement metrics are being met from a supply perspective. If they are not being met, product support teams should try to identify the percentage of non-mission capable assets due to supply shortages to give teams starting point to assess opportunities to resolve these shortages through performance-based logistics contracts with product support providers.

This report presents a performance-based logistics strategy for product support of weapon systems so Site Visit Executive can design product support strategies for new programmes or major modifications as product support strategies are reengineered for legacy weapon systems. Utilisation of performance-based Logistics approaches delineate outcome performance goals of weapon systems, ensures responsibilities are assigned, provides incentives for attaining these goals, and facilitates assessments of overall system reliability, supportability, and total ownership costs over system life of weapons systems.

Performance-based logistics strategies integrate acquisition and logistics process for buying weapon system capability. Site Visit Executive strives to achieve two primary objectives. First, the weapon system as designed, maintained, and modified must continuously reduce the demand for logistics. Second, logistics support must be effective and efficient, and resources required to fulfill logistics requirements, including time, must be minimised. As a product support strategy, Performance-based logisticsBLp serves to balance and integrate product support activities necessary to meet these two objectives.

To achieve logistics excellence, DoD is streamlining the infrastructure to reduce field-level Troops customer wait times by integrating weapon system supply lines both internally in the Services and externally with commercial logistics systems.

The most successful performance-based logistics programmes where both DoD and product support providers have a comprehensive knowledge of and experience in performance-based concepts, tenets, business models, and implementation strategies at the beginning of their programme efforts. The very best programmes assemble performance-based logistics teams representing both DoD and product support provider.

Emphasis is shifting from the performance of individual stovepipe functions, e.g., procurement; supply; transportation toward teams charged with coordinating functions to improve weapon system readiness.

Product support is defined as a package of logistics support functions necessary to maintain the readiness and operational capability of a system or subsystem. It is an integral part of the weapon system support strategy to be implemented by Site Visit Executive.

Product Support Package to include functions such as materiel tracking, distribution, technical info systems maintenance, training, cataloging, configuration control, engineering support, repair parts utilisation, failure reporting and reliability growth.

Significant materiel or spare parts build-ups are a sign of supply support inefficiencies, potentially a bottleneck in supply line processes. The process right before may be overproducing, or perhaps the process right after is unable to keep up due to quality issues. Performance-based logistics contracts must be structured to hold product support provider responsible for ensuring availability of parts.

Site Visit Executive must review current state of maintenance and repair processes and identify any delays, issues, or opportunities for improvement that could be addressed by introducing performance-based logistics contracts with product support providers.

Site Visit Executive must focus on identifying bottlenecks in the process step where the duration is the greatest and resolve that issue first. When identifying issues in the repair process, the team should also investigate root causes of system not performing to better understand the reason for delays. Even when field-level Troop requirements are being satisfied, it is possible for performance-based logistics approaches to deliver greater efficiency lead to improved process agility and/or reduced cost.

What is the scope of opportunity for repair teams to get access to system technical specs? Repair part or repairable used on multiple systems or an end item used by more than one field-level Troop unit provides the opportunity to evaluate enterprise-wide performance-based logistics interactions. There is a potential to save in terms of maintenance spend and materiel costs by aggregating the requirements and improving supply line efficiency. Generally, the larger aggregated requirement improves the negotiating position of DoD

during contract status determinations. An enterprise-wide performance-based logistics strategy for multiple systems or Services should be pursued whenever doing so will satisfy field-level Troop requirements and reduce costs.

Access to technical specs must be examined to determine if programme has options exist to pursue performance-based logistics contracts, because it can choose among multiple potential product support providers. If the technical specs packages are not purchased as part of the initial acquisition, limitations can occur for that particular programme. If provisions of technical specs are not included in contract, DoD will be limited to the removal and installation of units. This also places limitations on conducting diagnostic testing and work against in-house services or other substitute repairs.

Site Visit Executive is responsible for creating and executing strategic blueprint for logistics process so every part of the package is connected and contributing to mission capability of Troops in the Field. Workloads must be distributed to the most effective providers consistent with up-to-date guidelines, and well-directed efforts to focus on best competencies, best value, and effective use performance-based logistics contracts.

Once Site Visit Executive is provided with field-level Troops performance requirements, it is important to baseline the current performance and cost levels. The Service Life Stage of weapons systems programme determines the scope of a baselining effort.

For new programmes with no existing Logistics structure, the baseline includes an examination of the cost to support replaced systems. For new systems, the business model for supporting the product demonstrates its risks and benefits as part of the systems engineering process.

This “proof of concept” for the product support solution is part of the system design and demonstration phase. For legacy systems, baseline assessments form the basis for business case of Performance-based Logistics approaches being considered.

In conducting the business case assessments, solutions trade-offs are assessed in terms of their ability to meet the logistics performance objectives of field-level troops compared to existing support strategies. At this point, the business case assessment is rough order of magnitude that provides an overall sense of the planned change, benefits, and costs. Each military service has guidelines used to implement Performance-based Logistics.

There are risks associates with Performance-based logistics contracts when they are created in part because they pass the business case assessment, but assessments are difficult to perform if the is no baseline or historical information on the system being evaluated.

Does DoD really know what it is going to get out of the Performance-based logistics contract based on questionable business case assessment? Other potential risks include inability for DoD to regain in-house capabilities in the future, and the use of sole source to fund Performance-based logistics contracts.

Formalised performance metrics communications between field-level troops and product support providers sets our objectives to form the basis of the Performance-based effort. A focus on a few outcomes measures-- such as weapon system availability, mission reliability, Logistics Footprint, and overall system readiness levels—will lead to more effective solutions.

Performance metrics are vital to the success of performance-based arrangement with product support providers. DoD needs insight into programme performance to determine compliance with performance requirements and level of mission success. For example, one important area to gather metrics derived from supply line performance assessments to determine status of indicators such as materiel availability and operations and support costs.

Site Visit Executive is responsible for performance of the product support solution and uses field level troop metrics to monitor performance. Metrics assigned to product support provider reflect the responsibilities assigned to them. Selected metrics must be clearly defined and measurable in order to map back to the higher-level programme metrics. For example, product support providers may be responsible for availability of their product and the associated metric may be supply material availability or logistics response time. Too many metrics make it difficult for teams to assess and may also work at cross purposes to each other.

Metrics are used to track, measure, and assess implementation and effectiveness of the performance-based logistics arrangement executed by product support provider Metrics are the means by which Site Visit Executive can gain access to status of the product support solution and identify any gaps between required and actual performance to optimise product support operations and field-level outcome.

Metrics must be selected or constructed to encourage performance improvement, effectiveness, efficiency, and innovation. There is no perfect metric, but selecting an appropriate complementary set of metrics will promote the desired behaviour and outcome while minimising unintended consequences and delivering an on-time, quality product support service and reduce cost.

Sustainment planning and demand forecasting can be more accurate and efficient through the introduction of performance incentives where product support provider is held accountable for an outcome impacted by the accuracy of the demand forecast so product support provider is incentivised to assist Site Visit Executive with improving demand forecasts. If product support providers offer maintenance services, for example, providers probably have more detailed information about failure rates and system reliability across the fleet that will improve demand forecast.

The next task for Site Visit Executive is to measure how well the objectives are being achieved by establishing measures of readiness and supportability performance that are balanced against costs and schedules.

Product Support activities must be aligned with field-level troop requirements and monitored with metrics consistent with the responsibility and risk delegated to them. This is counter to traditional transactional approaches where the DoD procures products and services without linking the consumption of the resources with the desired mission-critical outcomes.

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Once Site Visit Executive determines appropriate support level ie, system, subsystem, or component combination product support service, the selection of metrics can begin. For arrangements at the system level, Site Visit Executive may decide to delegate responsibility for all aspects of product support with corresponding metrics of Materiel Availability, Operational Availability, and Materiel Reliability. Another system-level metric could be 'ready for tasking' if provider performs training for an aircraft system, measuring the number or pilots qualified or maintainers certified per month would be an appropriate metric.

Linking metrics to existing field level Troops measures of performance and reporting systems is the best approach. Many existing logistics and fiscal metrics can be related to top-level performance outcomes for Troops. These include requisition fulfillment rate, customer wait time, ratio of supply line costs to maintenance repair turnaround time, and so on.

Metrics are necessary component of Performance-based logistics contracts that serve to highlight performance and optimise Performance-based logistics effectiveness. Metrics outlined in contract should measure availability ie, on-time fill rates, supply materiel goals, repair response times. Reliability metrics such as failure rates and fleet support response timeliness are valuable because they measure what is truly important to field-level troops.

Reliability metrics also ultimately assist assessments to determine if Performance-based logistics contracts are having positive effect on Readiness. As important as quick fill rates are, reliability is the key component to realising success of the logistics programme. Although it is important for Performance-based logistics contracts to specify metrics, they are only of value to Site Visit Executive if they are given proper attention during the monitoring process.

Some content Performance-based logistics contracts are not primarily created to save money. This is true of the legacy systems but not always for large new programmes. But

should there not be an expectation of return for the investment? If so, it must be clearly stated and tracked. It is very worthwhile to look at what the reliability and availability of parts or system is with the Performance-based logistics contract compared to without the contract and to consider what the performance might be a decade or two in the future.

In structuring the metrics and evaluation performance, it is important to clearly delineate any factors that could affect performance but are outside the control of the Performance-based Logistics providers. While objective metrics should form the bulk of the evaluation of support provider performance, some elements of product support requirements are best evaluated subjectively by the Field-level Troops and Site Visit Executive allowing some flexibility for adjusting to potential support contingencies. For example, there may be different field-level troops priorities that must be balanced with overall objective measures of performance.

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Site Visit Executive must balance multiple objectives in designing Product Support Logistics strategies to achieve operational effectiveness while maintaining affordability. Emphasis on product performance has led to a redefinition of the traditional programme factors of performance, cost, and schedule. In the past, meeting these three criteria was centered on design, production, and delivery of weapon system.

One problem DoD has stems from policy where responsibility for delivering the capability did not rest exclusively with Site Visit Executive. The new approach highlights Site Visit Executive responsibility to deliver capabilities to Troops in the Field, not just a system.

Performance involves demonstrated technical capability and supportability for entire service life of system. Cost involves the total cost of ownership throughout service life and Schedule involves meeting design and production time frames required by Field-level Troops.

Site Visit Executive responsibilities must include innovative product support strategies tailored to Troop demand levels and the unique features of each weapon system. characterised by the following attributes:

1. Field-level relationships based on performance outcomes ie, flying hours or mission availability of equipment

2. Integrated supply line services across DoD divisions and industry

3. Focus on system readiness and field level support responsive to unique requirements of the military services

4. Best-value providers selected from DoD and industry cross-functional teams

5. Support conditions maintain long-term competitive pressures on DoD and industry providers

6. Secure, integrated information systems across DoD and industry

7. Mechanism to enable comprehensive supply line and full asset visibility

8. Continuous improvement of weapon system supportability and reductions in operation costs

9. Effective integration of weapon system support with transparent field-level activities provide total combat logistics capability

10. Strategic approach to delivering attributes and select product support integrator.