

Beyond PBL – Outcome Focused Performance

2007 DoD Maintenance Symposium



Chuck Silva | Senior Policy Analyst, ADUSD (Materiel Readiness)
Mike Disano | Logistics Management Institute

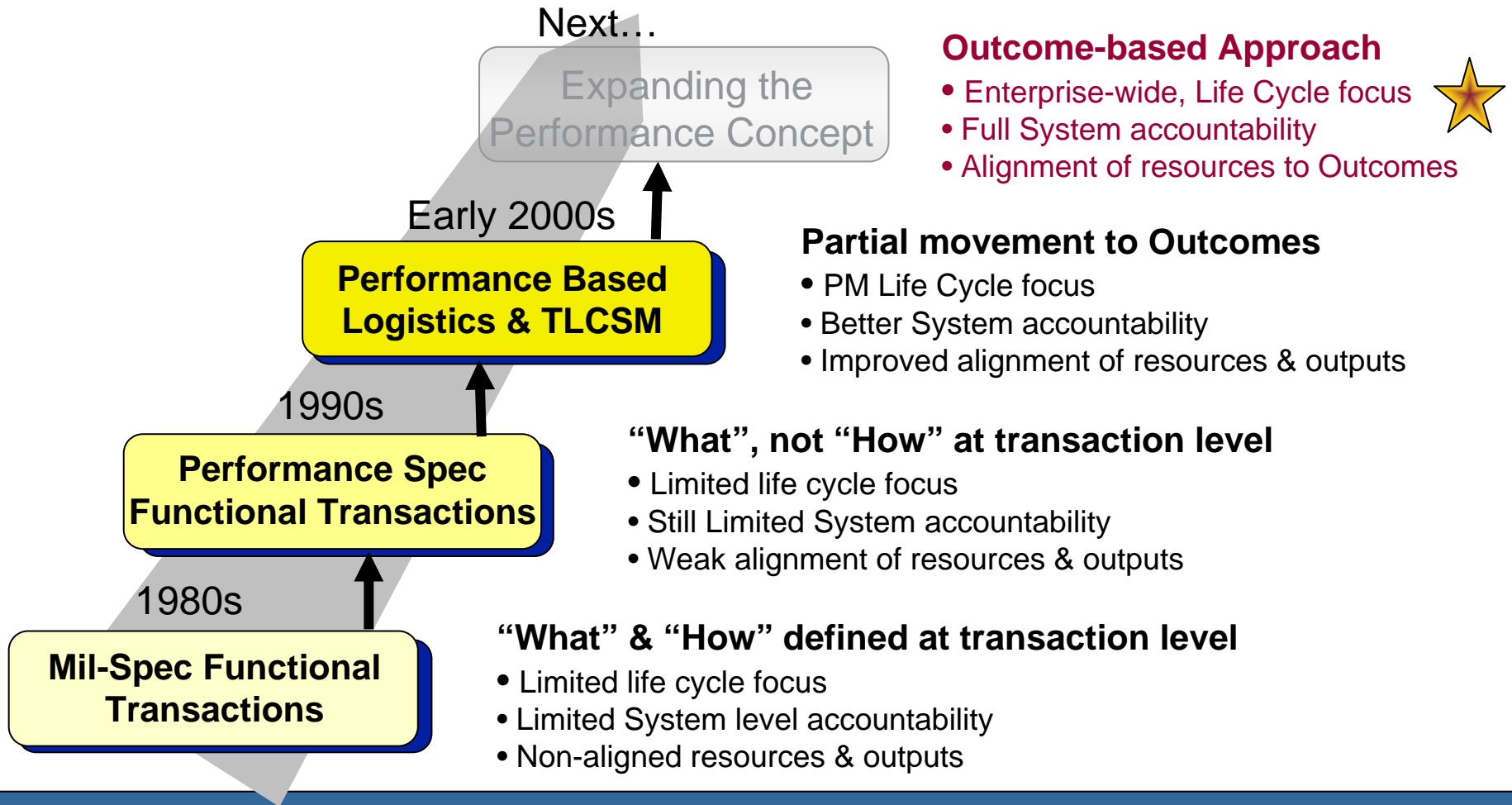
November 13, 2007





Evolution of DoD Support Strategies

From Outputs... → *To Outcomes...*





Performance Outcomes

Moving to An Enterprise-Wide, Life Cycle Alignment of Resources and Outputs to Achieve Top-Down, Performance Objectives

“ . . . Not Drive Lots of Activity, But Drive Outcomes.”

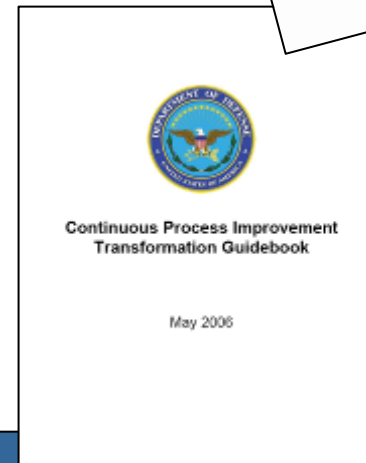
HON Kenneth Krieg
USD (AT&L)
October 4, 2006



Study Context

PDO in the LCM Environment

- Ongoing Reengineering Effort
 - Life cycle management policy
 - DAG
 - Supportability Guide
 - PBL & CPI Guidebooks
 - Sustainment KPP
 - Life Cycle Outcome Metrics
- A logical next step – PDO to provide a framework:
 - Describe and quantify weapons systems sustainment outcomes
 - Align, plan, and incentivize outcome achievement
 - Offer and describe enabling capabilities



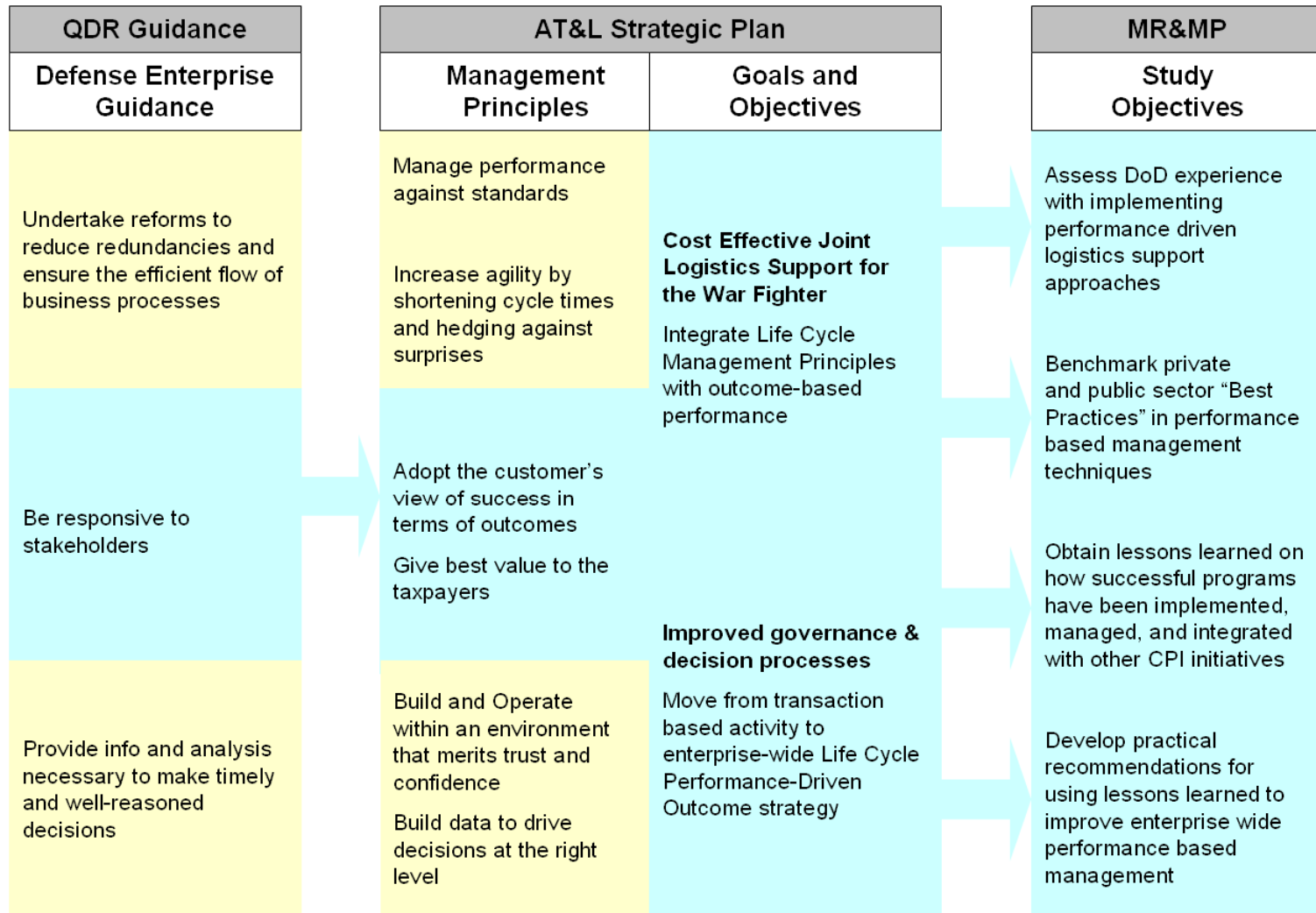


Outline

- Project Tasking in Context
- Methodology
- Findings
- Implications for DoD



Project Tasking in Context





Methodology

Study Hypothesis

DoD can significantly increase the value to the taxpayer and warfighter of its annual expenditure for weapon system sustainment by:

- Adopting a broader view of materiel readiness, with success defined in terms of outcomes
- Adopting an outcome-oriented approach to weapon system sustainment
- Increasing value through performance improvement initiatives

To test this hypothesis we needed to:

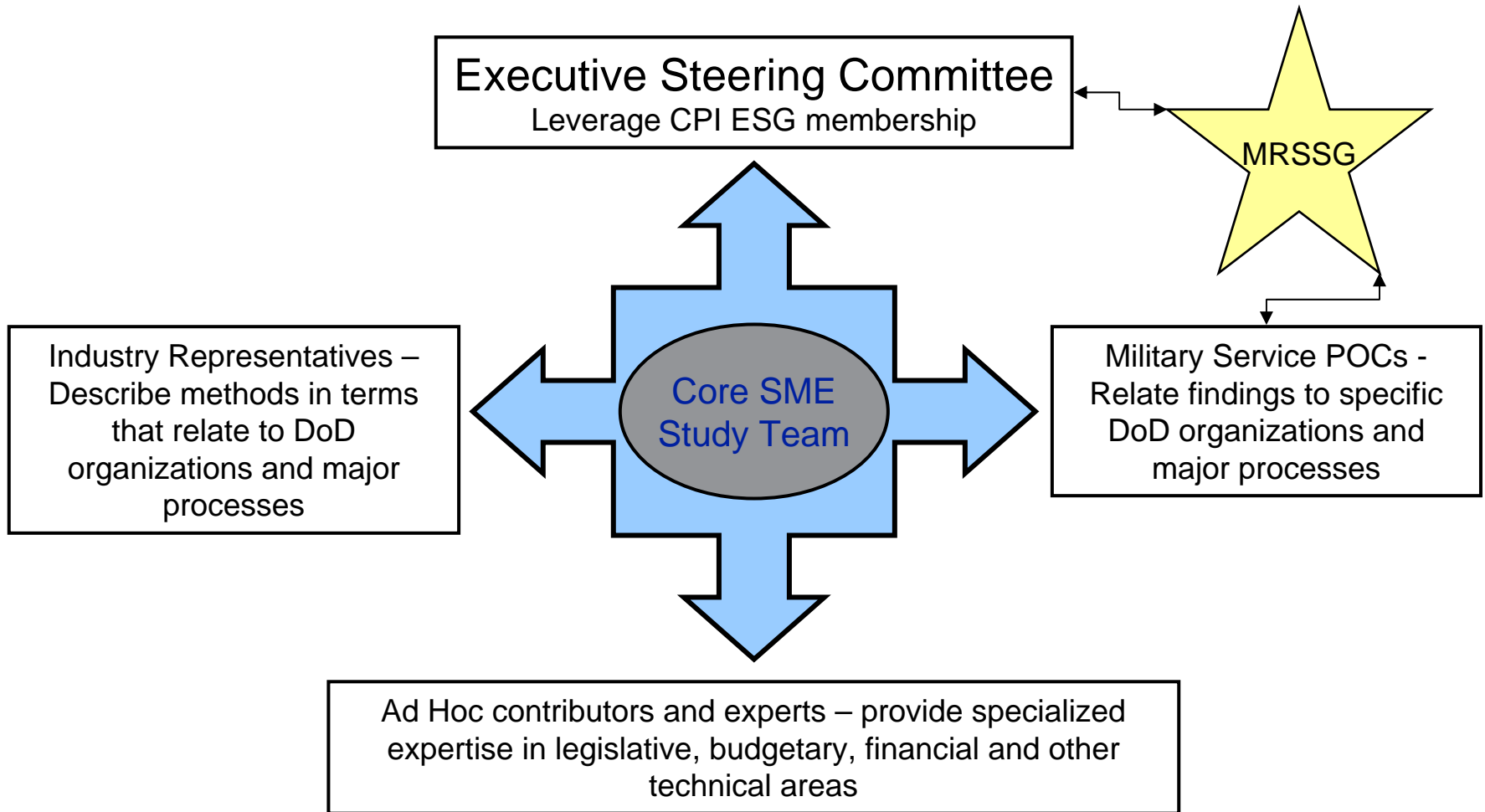
- Identify best practices employed by high-performing organizations to achieve desired outcomes
- Compare management practices across DoD and industry to identify the best approach for DoD to successfully implement an outcome-focused performance environment for weapon system sustainment





Methodology

Study Team Interfaces

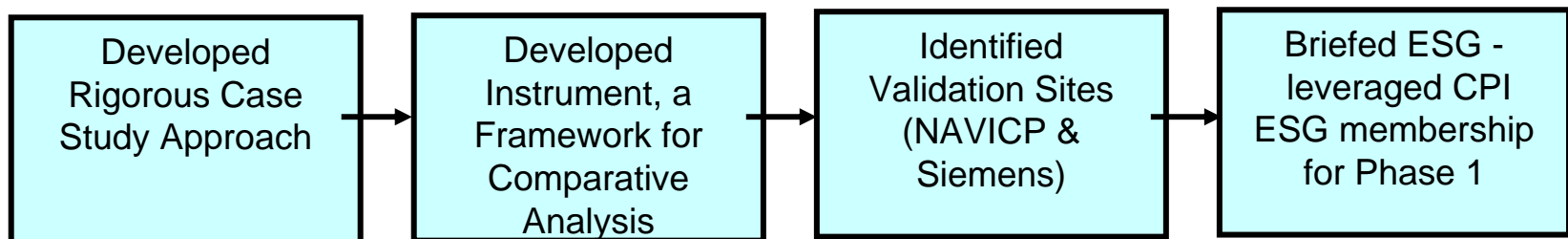




Methodology

A Case Study Approach

- Constructed and validated case study research instrument (structured interview template)
- Identified key performance areas for successful product lines based on literature review and SME experiences
- Identified and selected industry companies
- Structured questions to assess maturity in key performance areas
- Finalized instrument after rigorous pre-test in industry and DoD





Methodology

Developed a Maturity Matrix

Performance Characteristics	Stage of Maturity	
	Less Mature	More Mature
Performance Definition	<ul style="list-style-type: none"> Strategy not clearly defined Performance goals weakly linked to desired outcomes 	<ul style="list-style-type: none"> Clear, customer focused strategy Externally focused, balanced performance goals are quantitatively linked to desired outcomes
Performance Achievement	<ul style="list-style-type: none"> Single, output focused metric No instituted performance review cycle 	<ul style="list-style-type: none"> Balances, outcome focused metrics with external perspective Organizational support for corrective actions
Organizational Mechanics	<ul style="list-style-type: none"> Loosely structured organization Multiple chains of command Few organizational controls in place 	<ul style="list-style-type: none"> Matrixed organizational structure Senior leadership driven Employees empowered with clear bounds and controls
Information Management	<ul style="list-style-type: none"> Focus on information systems Functional systems with minimal integration and significant external processing 	<ul style="list-style-type: none"> Focus on information flows Integrated systems Significant external data sharing
Value Chain Integration	<ul style="list-style-type: none"> Value chain not defined Tactical supplier and customer relationships 	<ul style="list-style-type: none"> Value chain clearly defined several tiers up and down stream Value chain managed via partnerships
Process Innovation	<ul style="list-style-type: none"> Process innovation is ad hoc Process improvement focused on fixing "pain points" 	<ul style="list-style-type: none"> Formal process innovation programs Process innovation targets the value chain
Product Improvement	<ul style="list-style-type: none"> Ad hoc product improvement programs Product improvement tied to outputs 	<ul style="list-style-type: none"> Formal product improvement programs Product improvements tied to outcomes
Critical Capability Management	<ul style="list-style-type: none"> No awareness of critical capabilities No formal critical capability management program 	<ul style="list-style-type: none"> Active protection of critical capabilities Critical capabilities used as strategic advantage
Financial Management	<ul style="list-style-type: none"> Little understanding of organizational cost drivers Infrequently updated financial measures used by managers 	<ul style="list-style-type: none"> Clear understanding of value chain cost drivers Frequently updated leading and lagging measures used by managers





Methodology

Site Selection

<u>Industry</u>
▶ Boeing Military Aircraft
▶ <i>personal computer manufacturer</i>
▶ Siemens Energy and Automation
▶ Sikorsky Aircraft
▶ United Parcel Service
▶ West Marine

<u>DoD Activities</u>
Joint Program
▶ Joint Strike Fighter (JSF)
Army
▶ Shadow TUAV
Navy
▶ F/A-18
▶ NAVICP Common Avionics IWST
▶ T-45
Air Force
▶ C-17
▶ F-15
▶ J-STARS
Marine Corps
▶ Global Combat Support System (GCSS)
▶ Combat Operations Center (COC)





Methodology

Integrated Analysis

- Interviewed sites to document practices and enablers
- Populated maturity matrix for all organizations
- Used PD & PA as “dependent variables” to identify top performers
- Assessed cause and effect relationships across performance characteristics
- Identified common themes that contributed to their success
- Performed gap analysis to identify most salient elements for DoD performance-driven advancements

Performance Definition	More Mature		Top Performers	
	Less Mature			
		Less Mature		More Mature
		Performance Achievement		





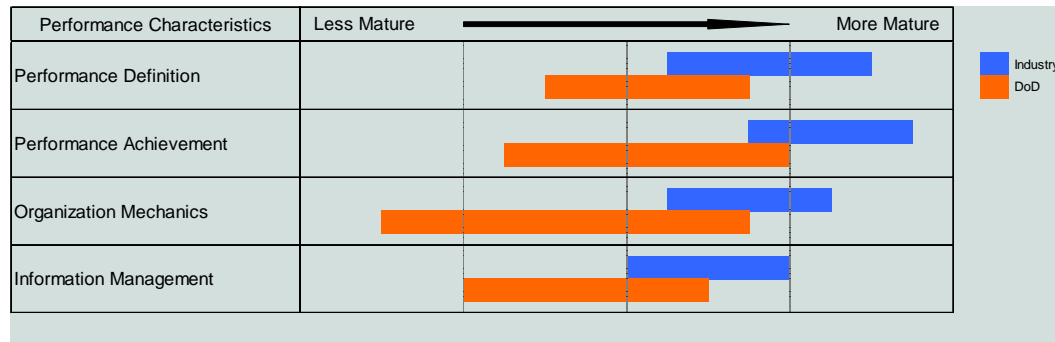
Findings Overview

- Outcome-Focused Sustainment Value Chains Already Exist in DoD
- “Trigger Event” Compelled Top Performers To Become Outcome-Focused
- Common Themes - Framework For Outcome-Focused Performance
 - Best Practices For Success – Maturity in Performance Definition, Performance Achievement, Organizational Mechanics, and Information Management form foundation for outcome focus
 - ‘Best Practices For Success’ Enable Broader Foundation For Value Creation – Maturity in Value Chain Integration, Process Innovation, and Product Improvement allow for greater value creation
 - Disparate Maturity Limits DoD’s Ability To Increase Value - Lack of maturity in the areas of Critical Capability Management and Financial Management limits DoD’s ability to fully achieve an outcome-focused performance environment



Findings

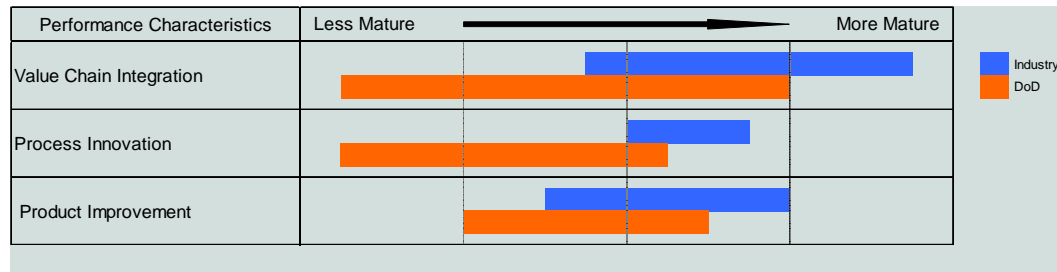
Best Practices for Success - Foundation for Outcome Focus



- Define outcomes with the range and depth needed to describe success in tangible terms
- Balance external (customer-oriented) and internal (financial - or asset-oriented) outcomes
- Articulate distinct outcomes by customer segment, mission profile, location
- Develop formal governance model to align elements based on the criticality of participation or engagement in outcome achievement
- Enable governance and decision processes with standard displays of performance-to-plan
- Define sufficiency in information transparency, content, standard data methods, and timeliness before addressing the technology used

Findings

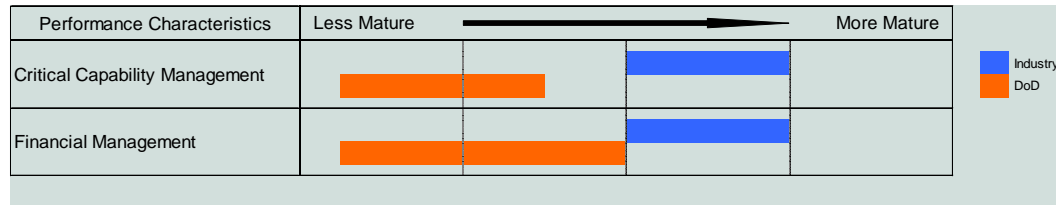
Foundation For Value Creation



- Maturity was the natural result of, or occurred in step with maturity in ‘best practices’
- Provider-customer relationship understood, categorized, and managed based on characteristics of that relationship
- Full alignment of provider community focused all elements on increasing value at outcome level, and not simply managing the inputs and outputs
- Integrated chains magnified value creation of innovation efforts by applying the expertise and resources from across the chain, not just from a single activity
- Exploited relationships to identify, approve, continue, or end initiatives based on their impact on outcome achievement and the creation and realization of value

Findings

Disparate Maturity Limits DoD

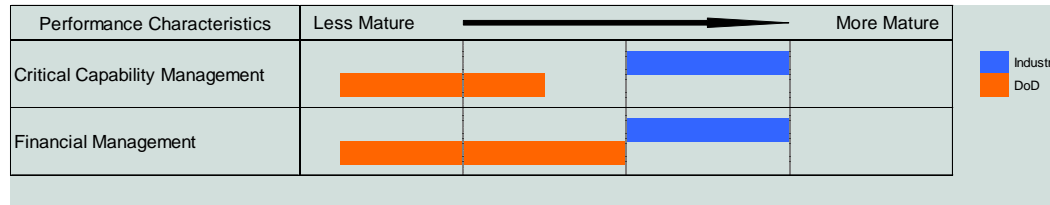


Critical Capability Management

- Industry sought technical, process, and decision-making superiority through capability maturity and process modularity
 - Product-related capabilities evaluated based on risks associated with level of technology, impact on quality, or availability in the open market
 - Process-related capabilities based on factors of process wholeness or integration, impact on time-definite delivery, and cost posture
 - Industry maintained a level of internal maturity appropriate for effective decision making
- DoD respondents addressed those functions directed by law, higher authority, or policy, little indication these were considered critical in addition to being required

Findings

Disparate Maturity Limits DoD (cont)



Financial Management – DoD consistently lagged Industry in ability to:

- Define specific and tangible financial indicators as critical to outcome achievement
- Integrate and drive the resource and investment machines in the creation of value
- Focus accountability for financial achievement
- Measure cost of operations, goods sold, assets, and inventory for product lines
- Develop techniques to transform the role of resource managers to a more strategic, analytical, and participatory role



Implications For DoD

Build on Maturity Analysis and Assessment of Best Practices

- Expand and Enhance the Body of Knowledge - Flesh out concepts, develop techniques and tools, and devise ways to align the processes that enable the value chain
- Proceed Deliberately - Select programs, or value chains, to test prototype applications; showcase successful techniques
- Enable the Community - Provide the tools, training, and policy environment needed for the community to transform





Implications for DoD

Expand and Enhance the Body of Knowledge

- **Clarify What Really Matters**. Describe and quantify a broader view of materiel readiness. *Define dimensions for Ready, Flexible, Reliable, Resilient, and Rational (cost of Operations and Assets)*
- **Create Governance And Accountability**. Create a product-centric enterprise. *Address Impact of Common Providers and Operational Units (Field-Level Support)*
- **Link Inputs And Outputs To Outcomes**. Determine and optimize the logical links among resources, activities, and outputs of the sustainment enterprise
- **Devise And Apply A Value Creation Model**. Identify, integrate, and align existing capabilities to ensure they are sufficient to create and realize value throughout the product-centric enterprise





Implications for DoD

Proceed Deliberately

Translate an enhanced body of knowledge into practical and manageable steps through:

- Focused and directed workshops targeted at learning more about top performers and refining practical steps to implementation
- Pilot programs to demonstrate the applicability and suitability of alternative strategies
- Leveraging ongoing CPI initiatives





A Way Ahead

Clarify What Really Matters	<ul style="list-style-type: none">• Describe how services relate readiness outcomes to measures of success• Determine what measures are used• Determine if new KPPs policy is being implemented
Link Inputs And Outputs to Outcomes	<ul style="list-style-type: none">• Assess capabilities to establish cause & effect relationships• Assess ability to present BCA for entire logistics chain• Identify readiness modeling tools available/used
Create Governance and Accountability	<ul style="list-style-type: none">• Analyze attributes of successful PSI• Document organizational, technology & policy enablers• Identify actions to empower organic PSI
Devise and Apply a Value Creation Model	<ul style="list-style-type: none">• Best determine VOC• Site visits and assessments of DoD activities & capabilities• Recommend CPI policy changes





Policy

DoD Directive 5000.1 – 12 May 03

E1.17. Performance-Based Logistics. PMs shall develop and implement performance-based logistics strategies that optimize total system availability while minimizing cost and logistics footprint. . . Sustainment strategies shall include the best use of public and private sector capabilities through government/industry partnering initiatives, in accordance with statutory requirements.



Life Cycle Metrics

All Four Metrics
Are Essential
To Developing
Balanced
Requirements

- **CJCSI 3170.01 – 1 May 07:**

- **Established KPP/KSAs as Mandatory JCS Metrics**

- ***Matériel Availability (KPP)***

- Measures the percentage of the total inventory of a system that is operationally capable of performing an assigned mission

- ***Matériel Reliability (KSA)***

- Measures the probability that the system will perform without failure over a specified interval

- ***Ownership Cost (KSA)***

- Provides balance to the sustainment solution by ensuring that the Operations and Support (O&S) costs associated with Matériel Readiness are considered in making program decisions

- **DUSD(L&MR) Memo - 10 Mar 07:**

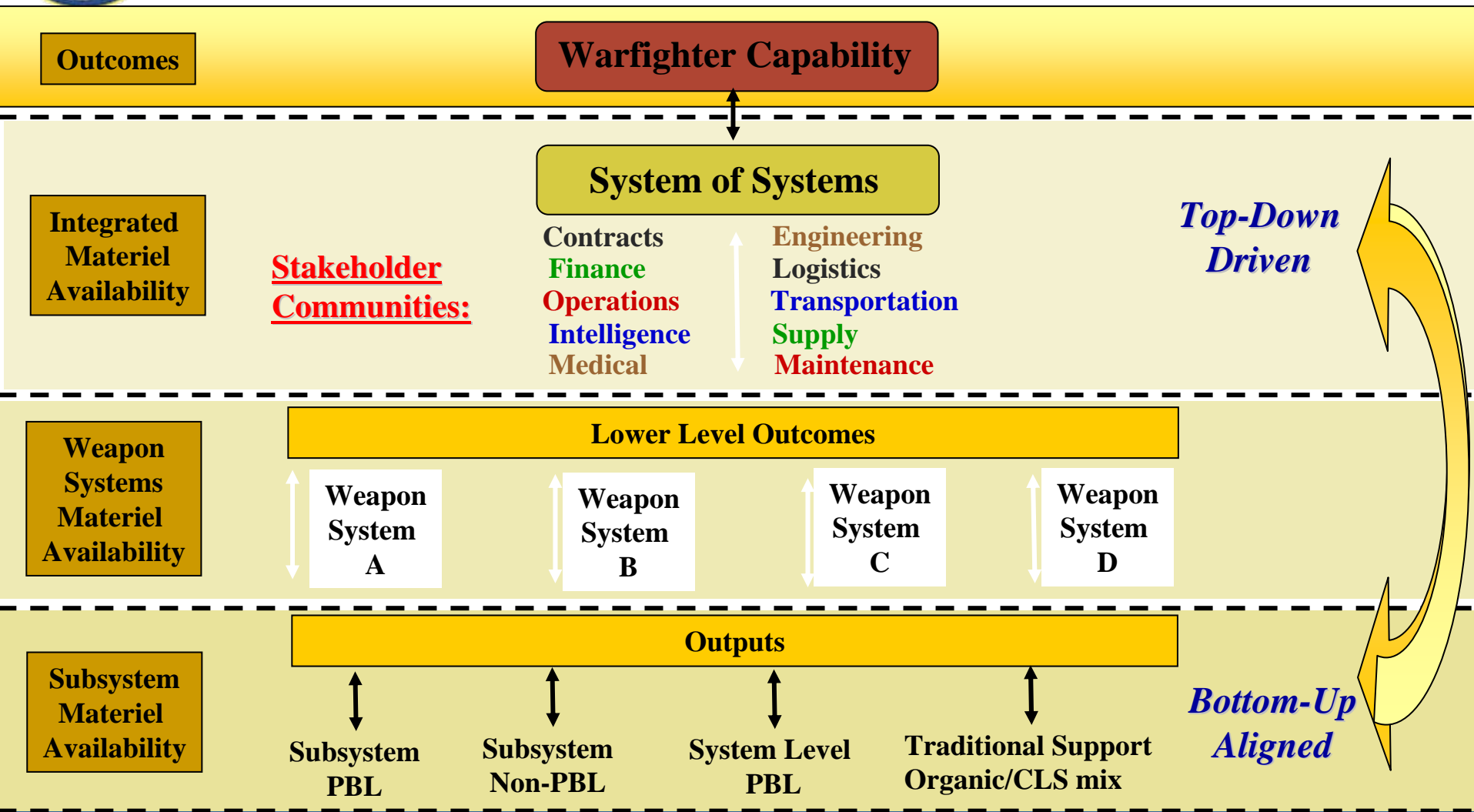
- **Accepted KPP/KSAs and Added Mean Down Time as DoD Life Cycle Outcome Metrics**

- ***Mean Down Time (MDT)***

- Measures the length of time that an asset will not be available due to any reason



Future Direction





- Back up



Implications for DoD

Near Term Objectives/Initiatives

- Reassess use of traditional readiness measures in resource decisions
 - Review methods for Setting Aircraft Availability and Mission Capability Goals
 - Evaluate Implications of outcome measures on current Sparing, Readiness, and Manpower models
- Develop Strategic Approach to Value Creation – a value proposition
 - Policy to guide current capability development and employment (RCM, CBM, PBL, Partnering, etc)
- Explicitly recognize attributes and limitations of existing governance models
 - Close the gaps in responsibility, authority, and accountability
 - Address creation of governance in remaining weapon systems





Methodology Core Study Team

<p>Dennis Virag, SAE ARI – President, Automotive Consulting Group</p>	<ul style="list-style-type: none"> - Assisted Toyota development of North American supplier sourcing strategy - Performed benchmark analysis to evaluate Ford's ability to develop and implement new technology in cooperation with leading suppliers
<p>Joseph Francis, PCOR - Chief Technology Officer, Supply Chain Council</p>	<ul style="list-style-type: none"> - Former supply chain manager, HP/Compaq - Former chair of Supply Chain Council board
<p>Taylor Wilkerson, LMI – Research Fellow, Supply Chain Management, Supply Chain Council certified SCOR trainer</p>	<ul style="list-style-type: none"> - Contributor to Returns and Best Practices development in SCOR Model - Six years experience with supply chain performance management
<p>Dr. Nick Avdellas, LMI - Research Fellow, PhD Public Administration and Policy, Lean Six Sigma Black Belt.</p>	<ul style="list-style-type: none"> - Working supply chain and process improvement tasks with the US DoD and Siemens Corp. - Previous consulting experience with IBM and performance improvement in DoD supply and maintenance activities
<p>Jerry Cothran, Supply Chain Visions/DAC</p>	<ul style="list-style-type: none"> - Extensive PBL experience at DAU
<p>Jerry Bapst, LMI - Research Fellow, Lean Six Sigma Black Belt, CFPIM, CIRM, Jonah</p>	<ul style="list-style-type: none"> - Completed transformational supply chain tasks with Amtrak & Siemens Corp. - Previous consulting with GE, Lockheed Martin, Sikorsky - J&J Company's Director of operations & material management.
<p>Dr. Steve Brady, Penn State University - Assistant Professor, Operations and Supply Chain Management</p>	<ul style="list-style-type: none"> - Extensive research in DoD and private industry performance improvement initiatives - Director of Certification, SOLE--The International Society of Logistics



Value of Money

Focus
Definition
DoD
Implication

Cost	Inputs	Processes	Outputs	Outcomes
Expenses incurred using the inputs	Resources available to the activity	Actions or services that produce outputs	Products and services produced or acquired	Intended result of the value chain
Appropriations and expenditures that benefit the weapon system outcome achievement	Military and civilian manpower, equipment, and materiel.	Maintenance, acquisition, supply, distribution, engineering, etc.	Components repaired, depot events, spares procured, materiel shipped, modifications designed, etc.	Material readiness (units that are ready for use in terms defined by the warfighter)

Efficiency

Effectiveness



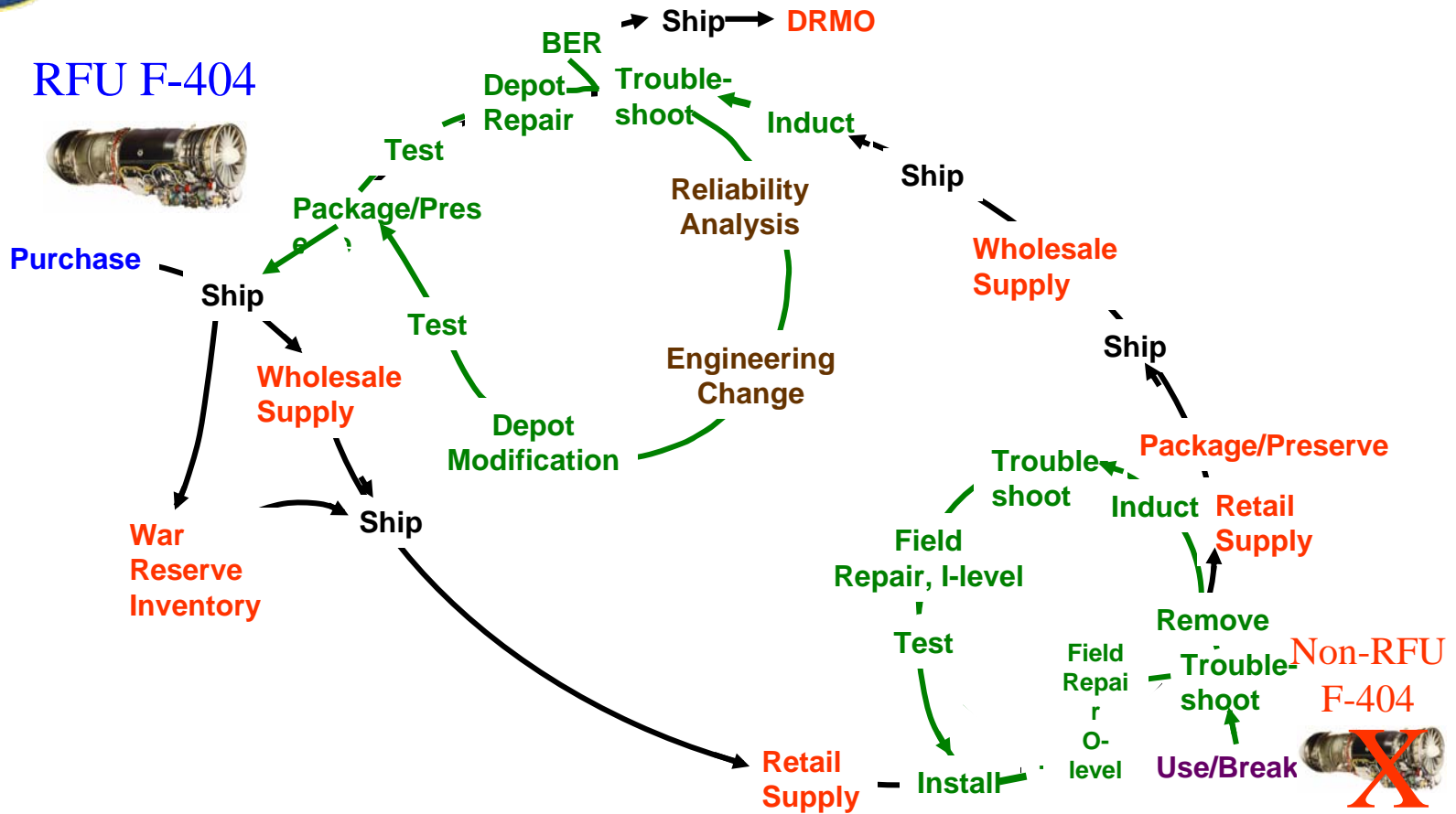
ESG Functions and Communication

- Validate study methodology
- Provide analogous/applicable experience with successful performance based management
- Collaborative interface with core study team and service representatives
- Meeting waypoints
- Study update communication
- Guidebook review





Value Chain

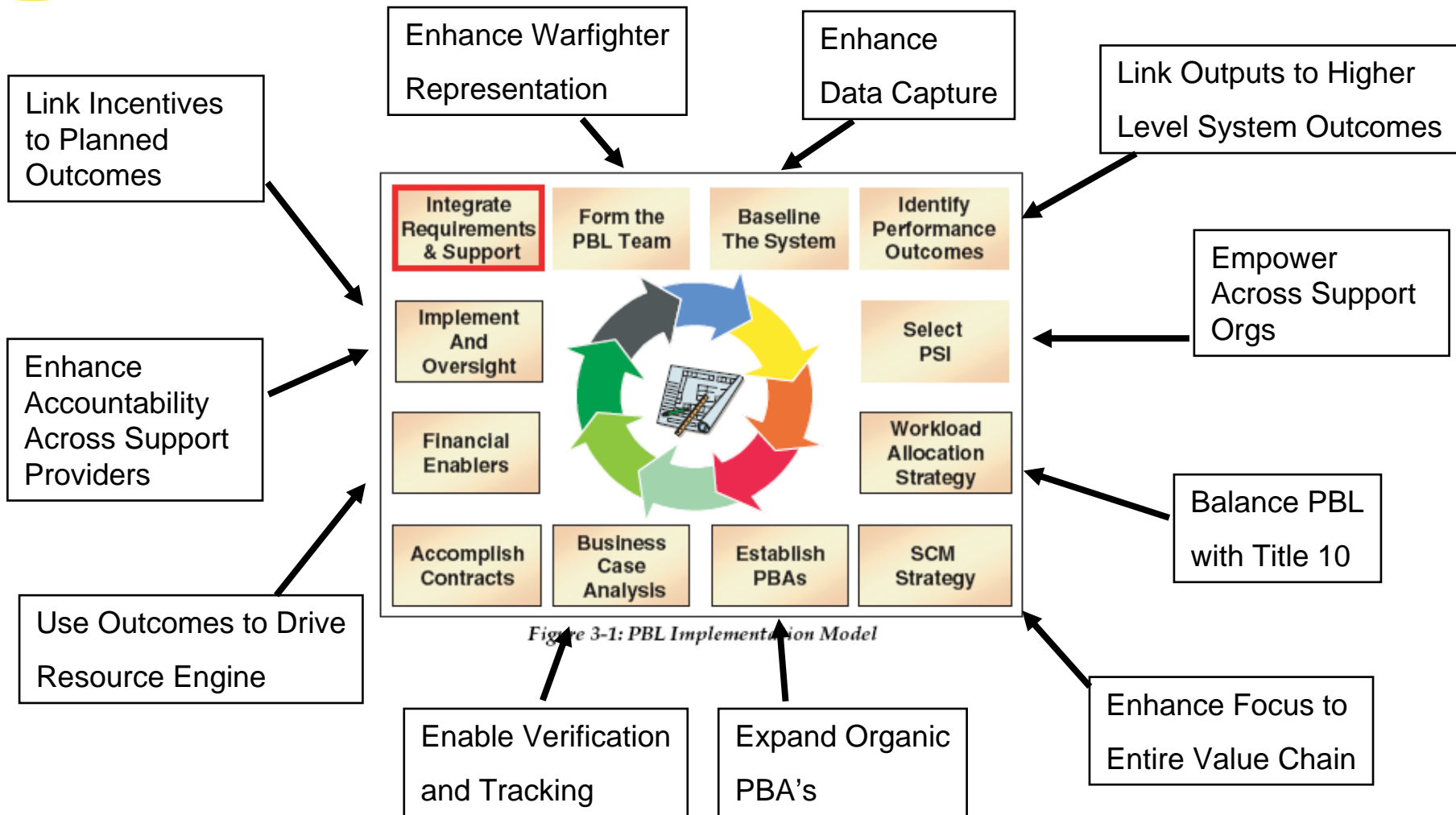


684 F/A-18 A-D Acft; 1368 F-404 Firewalls





Observations and Critiques from Many Sources



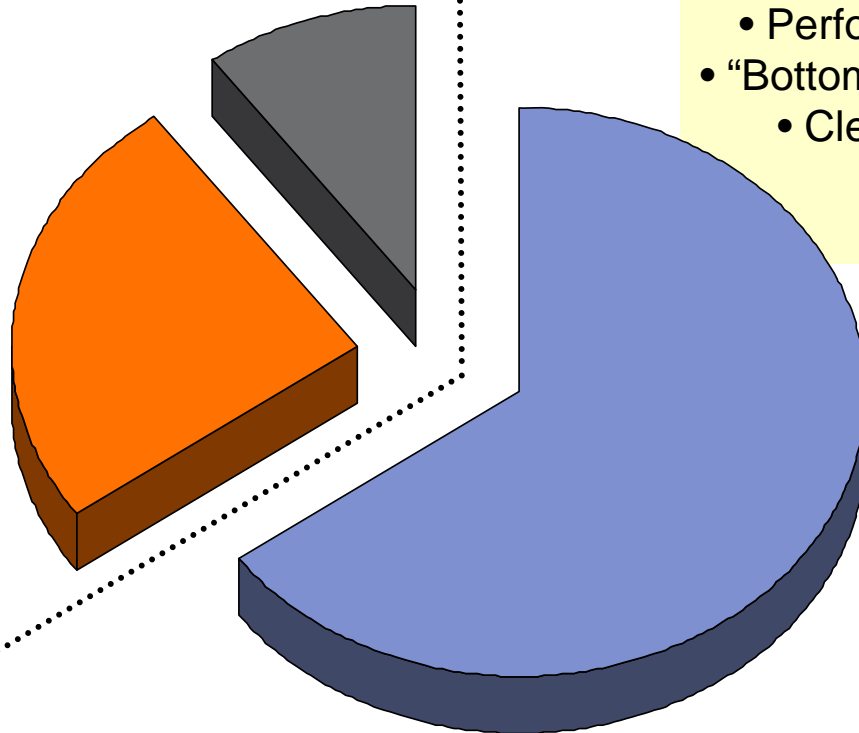


Total Support Strategy Providers

- Few Agreements
- Few Incentives
- Local Oversight
- Local value creation
- Disparate accountability
 - “Best Effort”

Common
Organic
Providers

Field-Level



- Integrated support
- Long term agreements
- Performance Monitoring
- Performance Incentives
- “Bottom line” Value creation
 - Clear accountability

Commercial
PBL





Implications for DoD

Enable the Community

- Develop a Guidebook
 - Integrate other transformational guidebooks - Enhance PBL and CPI guidance
 - Create an outcome-focused self-assessment
 - Incorporate the methods, practices, and tools developed and tested
- Identify and Provide Required Training
 - Modify existing Defense Acquisition University learning modules as required

