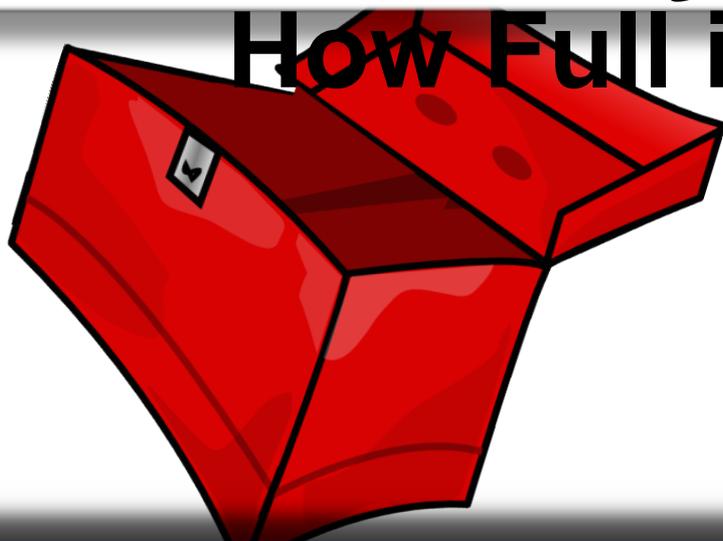




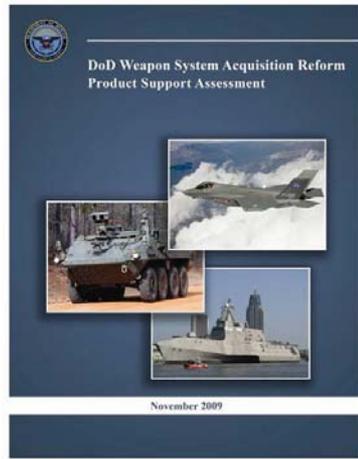
# Product Support Analysis Tools:

## How Full is the Toolbox?



Logistics... "embraces not merely the traditional functions of supply and transportation in the field, but also war finance, ship construction, munitions manufacture and other aspects of war economy."  
-- Lt Col George C. Thorpe, *Pure Logistics*, 1917

# A Well Documented Concern.....



- For BCAs to improve in effectiveness need to address, **clarify, and codify** analytical tools
- Historical **difficulties in selecting** and executing appropriate analytical tools
- Tools must **align with the phase** of life cycle
- Expanding the analytical tools **beyond BCAs**
  - greater opportunity to satisfy BCA root-cause problems found by GAO auditors
  - consistent analytical tools approach will allow DoD to provide **consistent responses to internal reviews and external audits**
- OSD should establish and facilitate a team of representatives to **collect known available analytical** tools to understand what is currently available within the community that supports decision making
- This team should **identify gaps** between tools that are available, **identify tools** that should be available, and **propose new analytical tools** or models to fill gaps

GAO

United States Government Accountability Office  
Report to the Subcommittee on  
Readiness, Committee on Armed  
Services, House of Representatives

December 2008

## DEFENSE LOGISTICS

Improved Analysis  
and Cost Data Needed  
to Evaluate the Cost-  
effectiveness of  
Performance Based  
Logistics



GAO-09-41

- Although DOD's guidance recommends that BCAs be used to guide decision making regarding the implementation of PBL to provide weapon system support, **the services are not consistent in their use of such analyses**
  - Most of the services have **not established effective internal controls** to ensure that the analyses are prepared or that they **provide a consistent and comprehensive assessment** of weapons system support options
  - As a result, the Department of Defense (DOD) has implemented PBL arrangements to provide weapons system support **without sound analyses** that ensure that the chosen approach will provide the most cost-effective support option to the department
- 
- While this GAO report and the DOD response focused on BCAs for PBLs..... **product support analysis is a key issue** in carrying out the intent of the DOD Weapon System Acquisition Reform
  - BCA guide provides details on the conduct and drafting of the BCA, but **does not delve into the actual use of the various product support analysis tools**
  - PSM Guidebook addresses the different nature of the BCA at each milestone and post-fielding, but again **does not provide any "drill down"** to the actual product support analysis tools.



# .....Demands a Response



Product Support Analytical Tools - Windows Internet Explorer provided by Defense Acquisition University

https://acc.dau.mil/psa-tools

File Edit View Favorites Tools Help

★ Favorites... in The News and Views n...

Tools

Login with your Password

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Password:

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[Benefits of ACC Membership](#)

Support Analytical Tools

agencies agency "air force" army "business case analysis (bca)" "computer resources" "department of navy" "design interface" "diminishing manufacturing sources and material shortages (dmsms)" dia "facilities and infrastructure" "failure modes and effects analysis" "failure modes effects and criticality analysis (fmea)" "fault tree analysis (fta)" "human systems interface"

 **PRODUCT SUPPORT ANALYTICAL TOOLS**

**Overview:** This repository profiles analytical tools for facilitating product support decisions, with an emphasis on DoD product support. For each tool, you'll find tool descriptions, the processes the tool supports, the Integrated Product Support Elements the tool supports, Services that use the tool, and ways to view additional information about each tool.

**Submit feedback:** The repository is a work in progress. Sign in with an ACC account and rate any tools you're familiar with, join a tool discussion, and suggest new tools. Suggest updates to existing tools using the [Feedback](#) button at the top of every page.

**View all tools** and sort them by column header on the [List of All Contributions](#) at the bottom of this page.

**Filter the tools** by selecting a link below (Add more filters on the next screen - see Tutorial)

Select the process the tool should support

<b>Supportability Analysis processes:</b>	<b>Program Planning/Control processes</b> <input type="button" value="View tutorial"/>
<ul style="list-style-type: none"><li>• Failure Modes &amp; Effects Analysis (FMEA) / Failure Modes Effects &amp; Criticality Analysis (FMECA)</li><li>• Fault Tree Analysis (FTA)</li><li>• Level of Repair Analysis (LORA)</li><li>• Maintenance Task Analysis (MTA)</li><li>• Reliability &amp; Maintainability (R&amp;M) Modeling, Prediction, Allocation and Analysis</li><li>• Reliability Centered Maintenance (RCM) Analysis</li><li>• Supportability Analysis</li></ul>	<ul style="list-style-type: none"><li>• Business Case Analysis (BCA)</li><li>• Diminishing Manufacturing Sources &amp; Material Shortages (DMSMS)</li><li>• Logistics Assessment (LA)</li><li>• Manpower Analysis</li><li>• O&amp;S Cost Estimating</li><li>• Standardization</li><li>• Supply Chain Management (SCM)</li></ul>

OR Select which Service the tool should support

- Army
- Navy/Marine Corps
- Air Force
- Agencies

OR [View All filters for tool](#)

Disclaimer: The product support analytical tools identified in this database are provided solely to assist defense acquisition



# The Team

- Mr. John Boyce – Office of DASD, Materiel Readiness
- Mr. Mike Bayer – Defense Acquisition University
- Mr. Bill Kobren – Defense Acquisition University
- Mr. Bob Houts – Office of DASD, Materiel Readiness
- Ms. Andrea Reese Hurst – Defense Acquisition University
- Ms. Mary Ryan – Defense Acquisition University
- Mr. Marty Sherman – Defense Acquisition University

OSD should establish and facilitate a team of representatives to collect known available analytical tools to understand what is currently available within the community that supports decision making

# The Research Piece

got purpose?

## A Problem

- The **use of product support analysis tools** in support of business case analyses (BCAs) to determine the best product support option **has been inconsistent**
- There are **several lists** of product support analysis tools; but little guidance as to the **applicability, appropriateness, and efficacy of the various tools**
- There is **no central repository** with this information

and

## A Purpose

- Identify what product support analysis tools are **available and their applicability** for BCAs conducted at various stages of the weapon system acquisition life cycle
- Establish a **body of knowledge/data base** to support weapon system program offices
- The results of the research can be used
  - as a foundation for a “Product Support Analysis e-Toolbox” accessible to the workforce through the Defense Acquisition Portal
  - as initial content for a Product Support Analysis Guide (if developed).



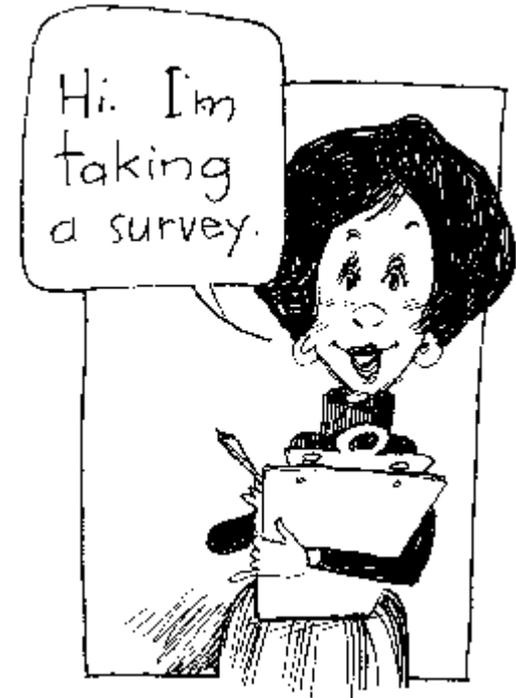
# Where the Tools Came From

- A Survey Administered to Program Managers, Product Support Managers, System Engineers, and Financial Managers
- Other sources included previous efforts by Price Waterhouse, Logistics Management Institute, and previous Defense Acquisition University efforts

**The Defense Acquisition Workforce**

# We Wanted to Know

- What product support tools are available?
- When in the product support life-cycle are the tools used?
- How “user-friendly” are the tools?
- Is there an overarching awareness of available tools?



The Survey Focused on 4 Areas

# It's All About Results

- It is unknown how many were sent out, but it was well over 100 – 54 individuals responded
- 23 tools were identified by survey; 246 were identified through other efforts
- User- Friendliness or ease of use – 33% of the respondents said they have never used the Supportability Analysis tools. 15% cited lack of expertise as the inhibitor.
- Knowledge of Availability
  - 30.3% cited not knowing Supportability Analysis tools were available
  - 35% for Decision-Making tools
  - 31% for Technical Tools
  - 43% for Financial Tools



Knowledge has to be improved, challenged, and increased constantly, or it vanishes.

--Peter Drucker

# The Recommendation

- Results of this study support the recommendation to **establish a repository** of product support tools
- Maintain the ability to **sort** the tools by applicable service component, life-cycle phase and applicability, type of process
- Repository once developed must be **marketed** to the workforce and placed in an accessible area
- Provide tutorial as to the use of the repository
- Continued effort should be exerted to keep the repository **up-to-date, and useful**



The creative process involves getting input, making a recommendation, getting critical review, getting more input, improving the recommendation, getting more critical review... again and again and again.

-- Unknown Source



# Phase Two Practical Application

- Scrub the tool list for validity
- An initial repository of analytical tools filterable by
  - Type process it supports
  - Military Department applicability
  - Integrated Product Support Element(s) it supports
  - Any known licensing requirements
- Ms. Andrea Reese Hurst will provide the demonstration

[Acc.dau.mil/psa-tools](http://Acc.dau.mil/psa-tools)

# Parting shots

- Living, breathing, growing



- Use it



- Add to it

- Update it

Get Invol

The creative process involves getting input, making a recommendation, getting critical review, getting more input, improving the recommendation, getting more critical review... again and again and again.

-- Unknown Source