Part Reuse Cost Avoidance

LMI

SD-19 Parts Management Guide

- The average total cost for adding a single new part into a system is about **$27,500**.
- An effective PMP will avoid this cost every time it precludes unnecessarily introducing a new part into the system.
- Therefore, a program with 10,000 parts may easily achieve a life-cycle cost avoidance of $6.8 million.

Other Estimates

Coopers and Lybrand

- $9,700+ saved by removing a part from inventory.

Other estimates range from

- $8,000 to $100,000

Average Value
$9,700 - $27,500

- Best when:
  - Fast estimates are needed
  - Calculation is too hard
  - Promoting Part Reuse Concept
- Not Sufficient when:
  - Management Requires Proof / Details
  - More precision needed
  - Costs (labor rates) differ - company / location

Average Number Will Not Fit All Situations / Needs

- Sourcing the Part
  - **Existing Stock**
  - **Preferred Existing Stock**
  - **Not Preferred - Market or Aftermarket Purchase**
  - **Purchase on Open Market**
  - **Competitive Procurement**
  - **New Design**

- Each Results in Different Costs / Savings

Average Number Will Not Fit Differing Complexities

- **Not Complex**
  - Simple / low cost part (nuts, bolts, screws)
- **Moderately Complex Part**
  - Moderate Cost (Connectors, Microchips, Mechanical parts)
- **Complex Part - Low Complexity Assembly**
  - Moderate to high cost (circuit boards, small pumps, motors, valves)
- **Moderately Complex Assembly**
  - High Cost (Mid-Size Expensive, Repairable, Complicated)
- **Very Complex Assembly**
  - Highest Cost (Large, Expensive, Repairable, Very Complicated)

Each Scenario - Different Costs

- Engineering and Design
- Testing
- Manufacturing
- Purchasing
- Inventory
- Logistics support

Alternative Approach

- Tailored Cost Avoidance Calculator
  - Requires Understanding Variables
    - Scenario
    - Time
    - Labor Rates
  - Requires Effort
    - Conducting specific calculations
    - Maintaining calculated data

Prototype Calculators
Next Steps

- Starting points
  - LMI model
  - Electric Boat model
- Assess and Refine Models
  - Validity
  - Utility
  - Value
  - Ease of use

Tools Subcommittee

- Refine the existing EB prototype
  - Add capability for component complexity
  - Leverage DMSMS survey content
  - Coordinate with participants
- When ready, test tool with PSMC participating companies
- Produce spreadsheet tool that can be used to independently calculate cost avoidance
- Use new tool for benchmarking project

Produce New Estimates

- Produce estimated cost avoidance for matrix of scenarios
  - Source
    - Preferred part
    - New purchase part
    - New design part
  - Complexity
    - Simple
    - Moderately complex
    - Very complex

Preferred Parts

- Develop new strategy to advance preferred part projects and usage
  - L3 Case Study
  - One Boeing Case Study
  - White Paper with Preferred Parts Roadmap
  - Promote application of existing tools for focused advancement of preferred parts projects, e.g.
    - Silicon Expert
    - IHS
    - XSB

Other Considerations

- Get Pref Parts Guidance into D-19
- Develop Industry Std
- Develop Policy / Proced
- Look at DigiKey capability (L3)