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## **Intersection of Quality & Program Management Execution**

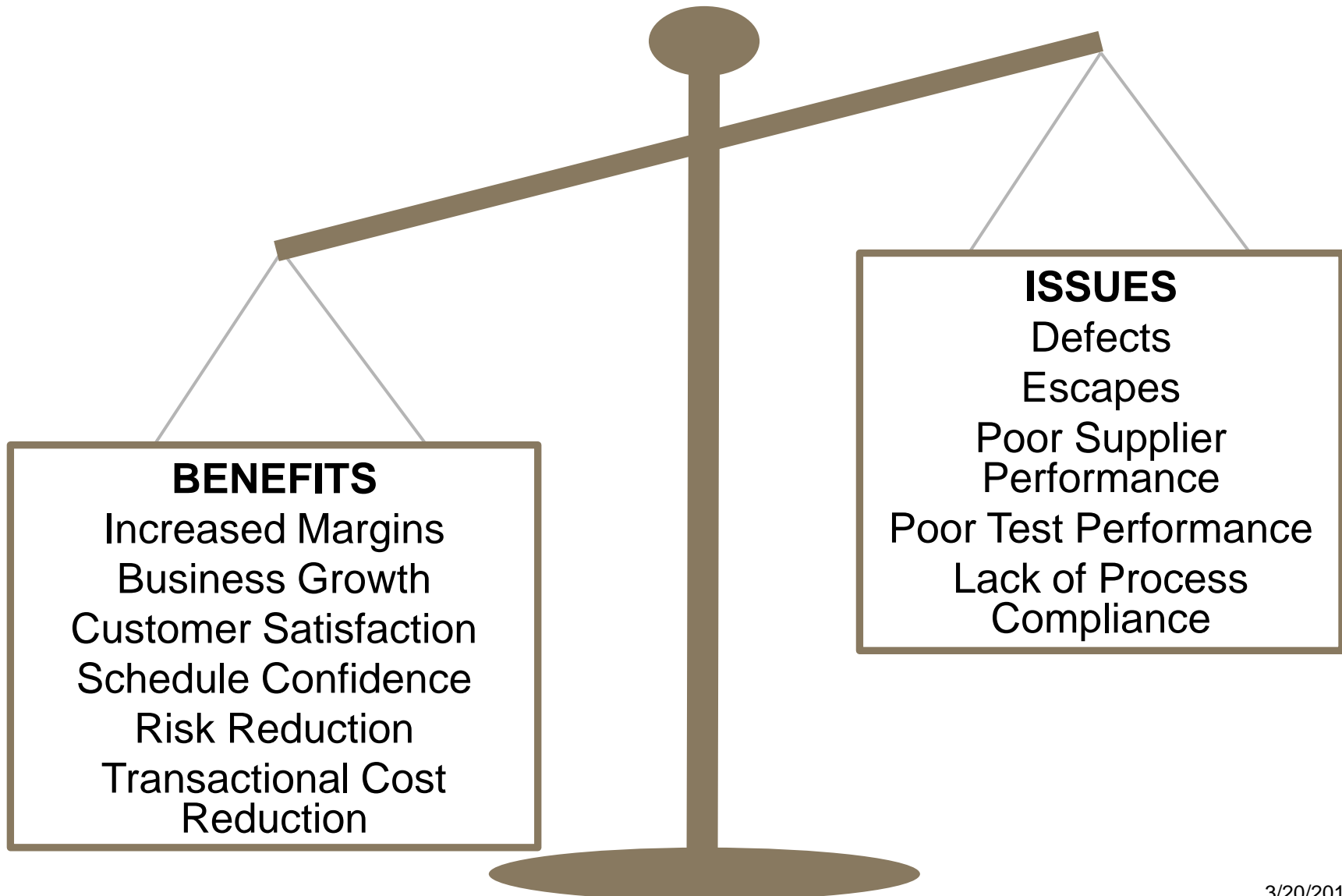
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19 March 2013

# Focus on the PARTNERSHIP

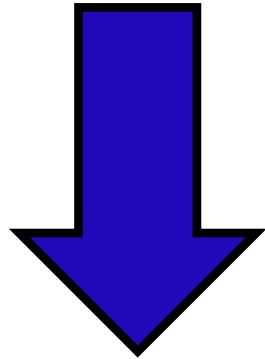


- Bond of Quality Professionals & Program Managers
- Quality - Engineering, Operations & Supplier
- Bonded Throughout Program Lifecycle
- Collaborate to Avoid Ultimate Escape
- Remain Affordable

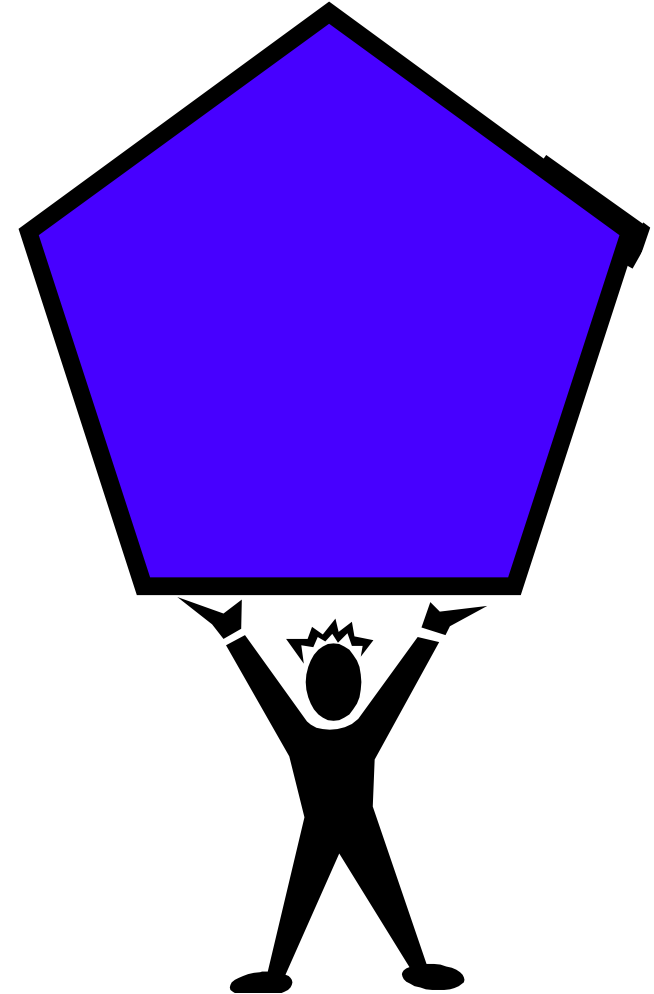
# Quality and Program Management Bond: Benefits Outweigh Issues



## Team of 5



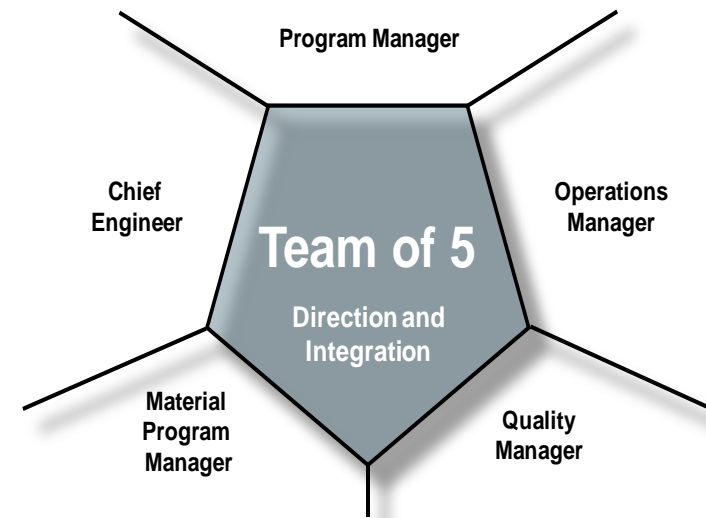
Professionals working together to eliminate and catch quality escapes during program execution.



**Successful Execution**

# Team of Five Concept

- Concept of organization whereby production and development program leadership teams identify decision-making authority and roles and responsibilities to the five core domains
  - This core group is responsible for managing the day-to-day execution of the program and critical decision making
  - Acts as the Board of Directors for a program, with the PM as the Chairperson
  - All members assume full responsibility for program success
  - The To5 structure exists to provide integration across functional and programmatic boundaries
- Can also be mirrored at the Product Line and Business Unit level



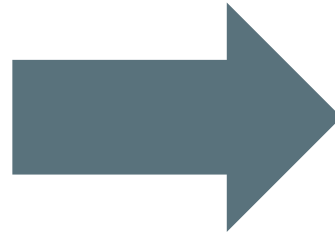
# On What Internal Information Does the PM Need to Act?

Hardware?

Software?

Test Equipment?

Supplier Caused  
Issues?



**All  
Important!**

**Facts Lead to Decisions**

# High Cost of Poor Quality, Part I

## ■ Statistical Process Control (SPC)

- ✓ To5 reviewed data daily
- ✓ Identified key test parameters that were:
  - Out of control
  - Going out of control
  - In control, but out of spec



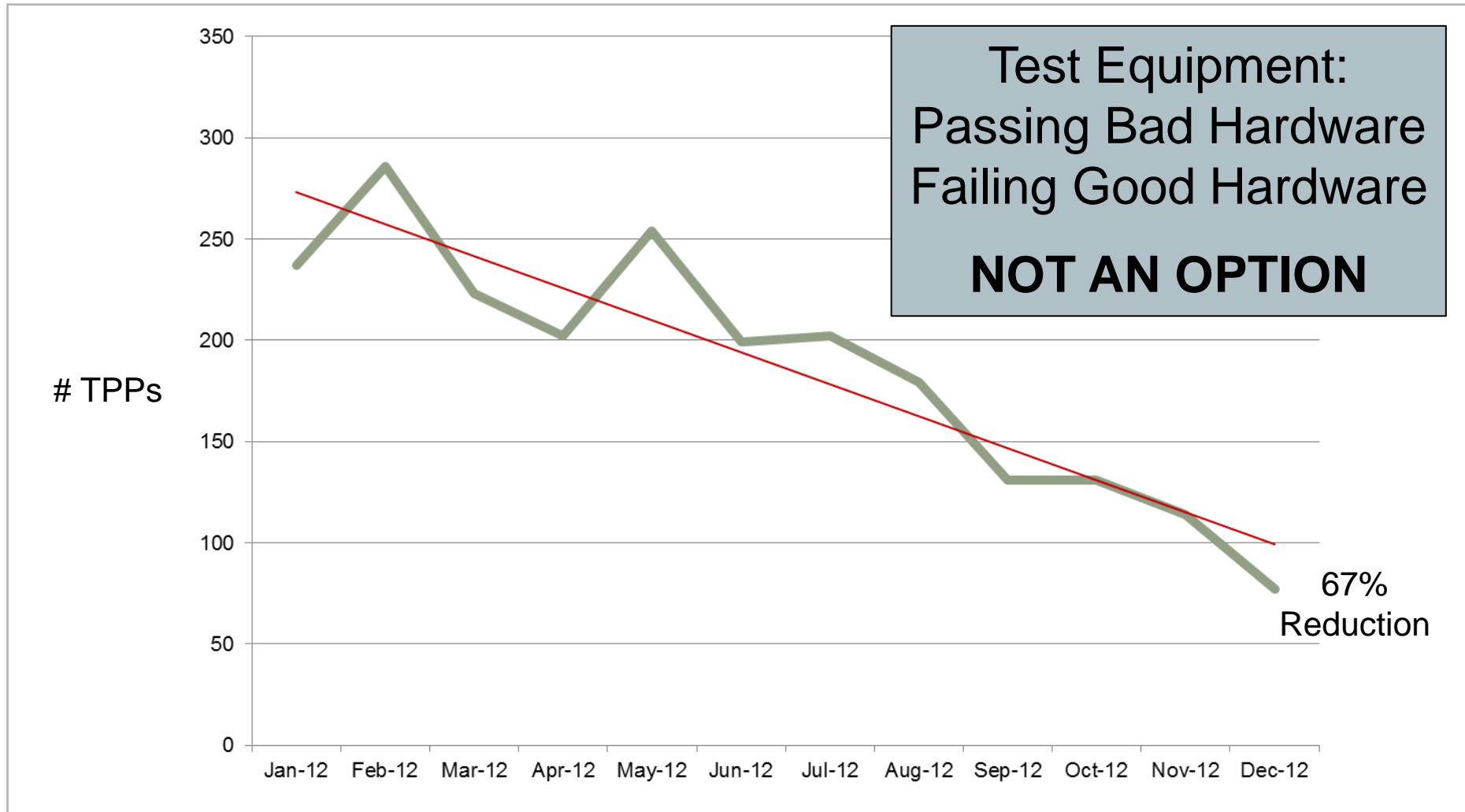
## ■ Results

- ✓ Identified factory test equipment on the edge of producing erroneous results
- ✓ Ensured factory test equipment investments were in the right place
- ✓ Avoided costly rework and possible recall events due to quality escapes



**Collaboration & Focus**

# Test Position Problem (TPP)



**What is Your Goal to Reduce TPP?**



# High Cost of Poor Quality, Part II

- Failure Reporting, Analysis and Corrective Action System (FRACAS)
  - ✓ Reviewed, analyzed, and categorized test issues
  - ✓ Developed a prioritized list of issues to work
  - ✓ Root Cause Determination
  
- Results
  - ✓ Identified components causing the most issues
  - ✓ Reduced rework
  - ✓ Improved first pass yields
  - ✓ 50% reduction in Cost of Poor Quality (COPQ)
  - ✓ Touch and Support Hours Per Unit (HPUs) down to historic levels



**A Bond To Take It To The Next Level**

# The Pure Fleet

- Javelin CLU Retrofit Program To5
  - ✓ Stood up an independent CLU retrofit production line
  - ✓ To5 & USG Quality Reps developed a complete and independent QA Review Process
  
- Results
  - ✓ Monitored FRACAS, test yield inspection and quality metrics
    - Available on-line and standardized
    - Reduced Cost of Production
      - Reduced CLU Tests that historically demonstrated 100% yield
      - Combined test programs to eliminate multiple test operations reducing manufacturing time
  - ✓ Inspected 100% of all retrofit CLUs prior to unit fieldings
  - ✓ Issues immediately addressed and resolved through To5
  - ✓ Reduced Period of Performance



**Partnership Contributed to \$135M of New Business**

# Team of 5: Driving Quality & Productivity

- **Faster Decision Making** - Efficient information exchange enhances productivity and allows for quick decision-making
- **Collective Communication** - One voice to communicate a consistent message to program and functional organizations



- **Dynamic View of Problems** by improved alignment and understanding the key care-about of the different disciplines
- **Resource Coordination** allows To5 to remove barriers and provide guidance to team members & keep production line flowing

# Quality Metrics Driving Action

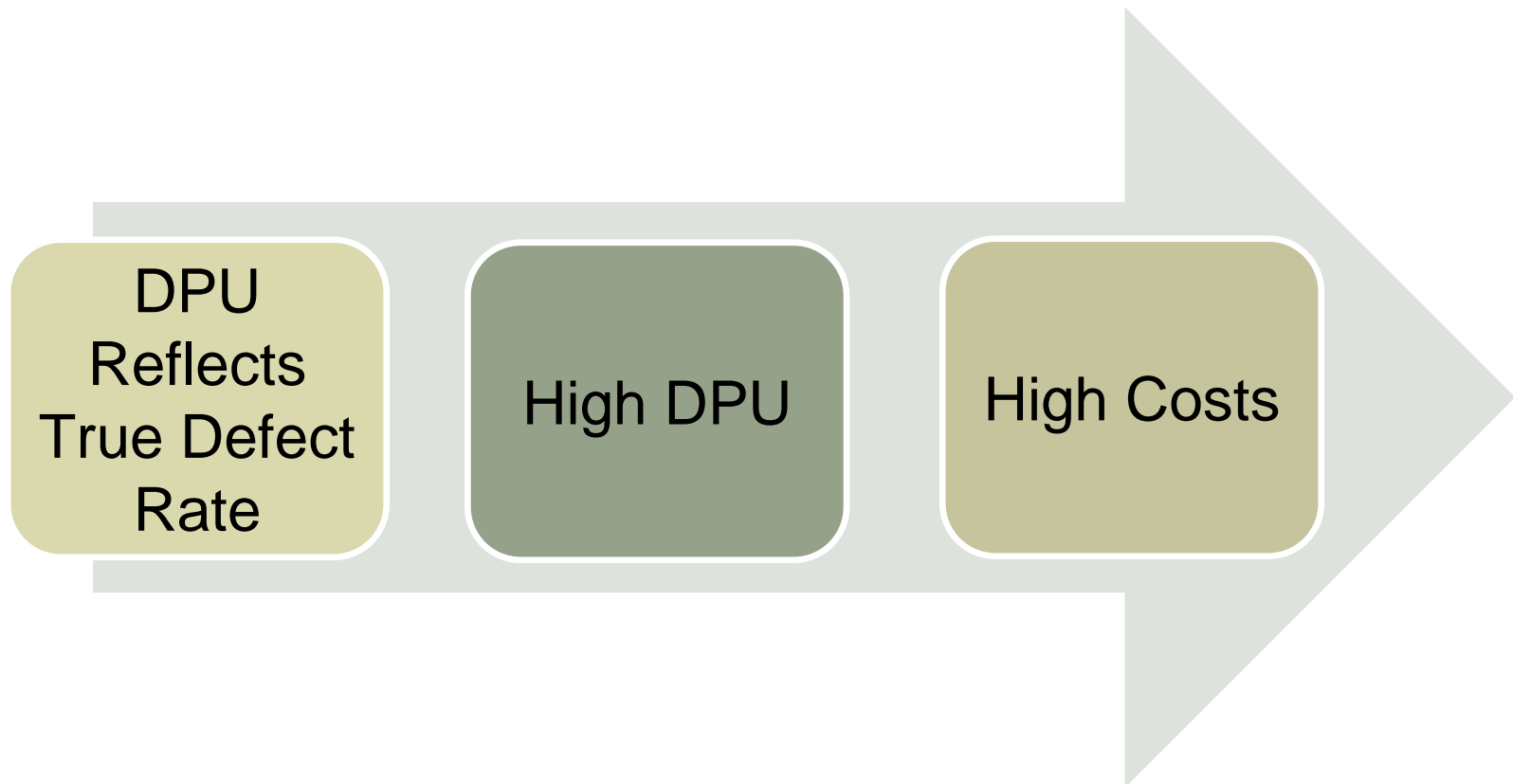
## Defects Per Unit

## DPU



**Team of Five Peeling The Onion**

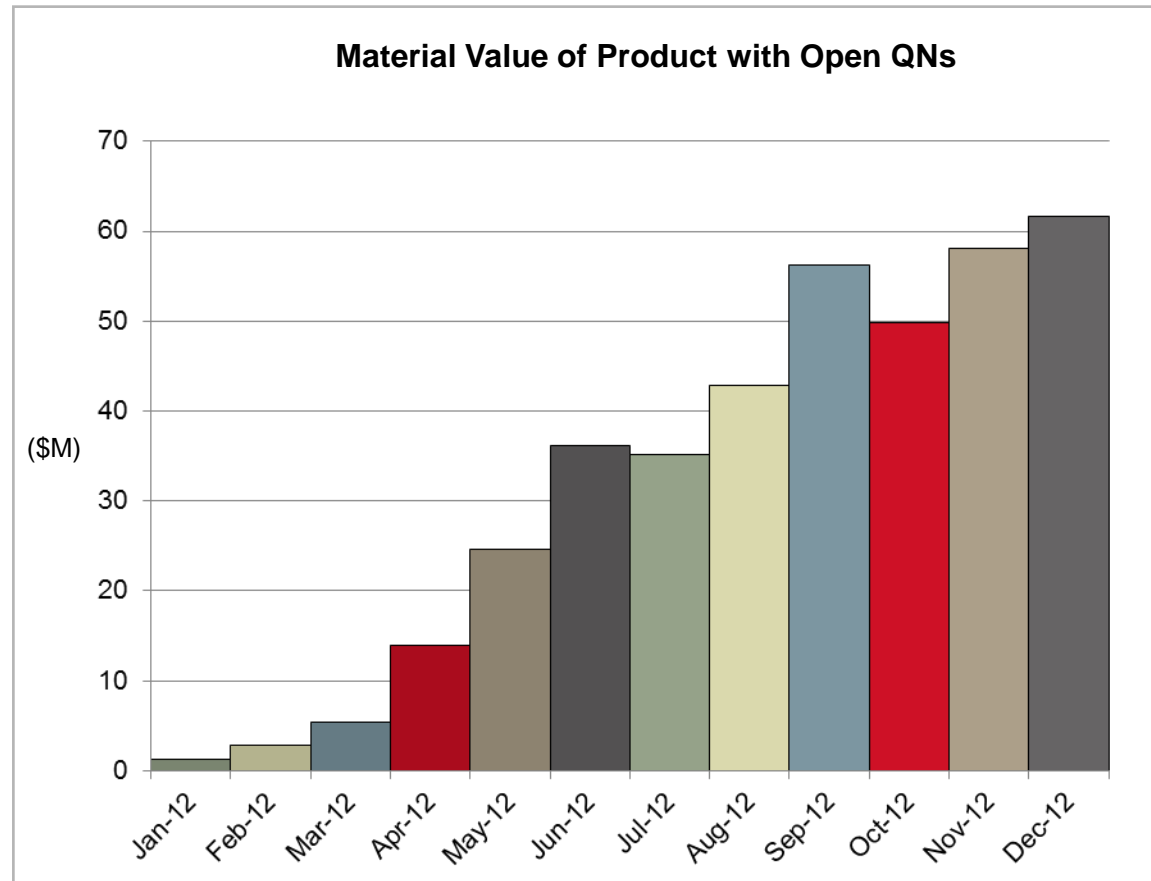
# How Does a PM Analyze Product Quality Health Regardless of Changing Production Volume?



**Can You Afford To Ignore DPU?**

# DPU Focus Uncovering Rising Transactional Costs

- Program Manager neglecting open Quality Notifications for product
- Exponential growth of sedentary, unusable hardware
- Money left on the table
- Loss of customer confidence
- Lack of root cause determination



**What Are Your Transactional Costs?**

# Internal Focus on DPU Extends To the Supply Base

- ✓ Provides the PM a quick, visible pulse to supplier issues
- ✓ Focuses Team of 5 on hardware and paper issues
- ✓ Reduces / Eliminates quality escapes from supplier to internal factory floor
- ✓ Forces a collaborative bond between prime & supplier to quickly reach root cause



**Everyone has a  
piece of the pie!**

**Set Your DPU Goal!**

**Keeps Production Lines Moving &  
Customer Needs Met**

# In Summary

- Successful Program Execution Depends on a Strong Partnership with Quality Professionals
- Team of 5 Uncovers Various Issues on Development & Production Programs and Allows for Quick Resolution
- A Focus on Open QNs Drives Transactional Costs Out of the System
- DPUs Create Results-Based Action Both Internally and Within the Supply Base



**Team Coming Together to Drive Affordability**



# Questions?

