

SIX SIGMA OVERVIEW AND CHANGE MANAGEMENT PITFALLS

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SIX SIGMA: NOT JUST A NEW NAME



WHAT IS SIX SIGMA

- What it is not:
 - Secret Society, Slogan, or Cliché
 - Just a statistical term for variation
- GE Definition:
 - It is a highly disciplined process that helps us focus on developing and delivering near perfect products and services
 - Changed the DNA of GE - it is now the way they work in everything they do and design

WHAT IS SIX SIGMA GE KEY CONCEPTS

- Disciplined
- Data-driven approach
- Methodology for Eliminating Defects
- Every Process, Product and Service
- Sub-Methodologies: DMAIC and DMADV
- Green Belts, Black Belts, Master Black Belts

WHY SIX SIGMA

- Savings Examples
 - AlliedSignal: \$800M over 2 Years
 - Motorola: \$13B over 10 Years
 - General Electric: \$8-12B over 5 Years
- Customers Feel the Variance, Not the Mean
- 99.9% Quality (3 Sigma, is no longer good enough to delight the customer)

WHY SIX SIGMA

- At 99.9% Quality There Would Be:
 - 20,000 Wrong Drug Prescriptions/Year
 - Unsafe Drinking Water Almost 1 Hour a Month
 - 25,000 Lost or Incorrectly Delivered Articles of Mail Every Hour
 - Over 9,000 Wrong Felony Convictions/Year
 - Two Short/Long Landings at O'Hare Each Day

WHY SIX SIGMA

- More Sensitive than Percentage
- Cost of Poor Quality Goes Down

Percent	DPMO	Sigma	COPQ
69.1000%	308,537	2.0	30-40%
93.3000%	66,807	3.0	20-30%
99.4000%	6,210	4.0	15-20%
99.9770%	233	5.0	10-15%
99.9997%	3.4	6.0	<10%

TQM VS. SIX SIGMA

- TQM
- Department in Org and Counter to Production
- Focus is on Quality
- Quality is Good
- Quality Career Path
- Technical Personnel Develop Goals

- Six Sigma
- Cross-Functional Team Working Together
- Focus on Strategic Goals
- Creates Tangible Benefit
- Stepping Stone to Move
- CEO's and Executive Management Goals

SIX SIGMA PROCESS

- Senior Leadership Commitment
- Define Roles (EMT - Process Owners)
- Project Charter and Selection Process
- Rollout Six Sigma Awareness
- Train Green and Black Belts
- Do Six Sigma Projects (DMAIC/DMADV)

SIX SIGMA PROCESSES

- Improve Existing Process

- DMAIC

- D - Define

- M - Measure

- A - Analysis

- I - Improve

- C - Control

- Design New/Redesign Existing Process

- DMADV

- D - Define

- M - Measure

- A - Analysis

- D - Design

- V - Verify



CHANGE MANAGEMENT
PITFALLS

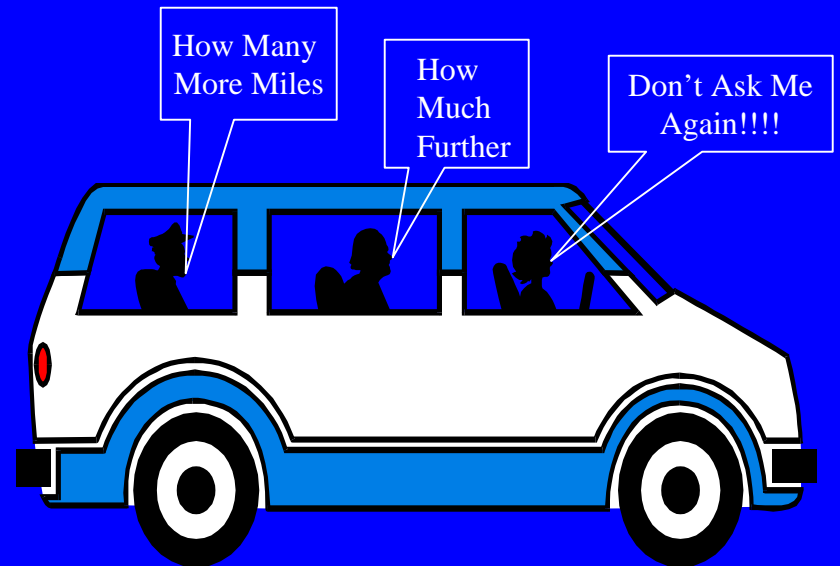
SILVER BULLET

- Fix All the Problems in One Single Shot
- Easier Moving From 2 Sigma to 3 Sigma
- Further Improvements Get Harder
- Small Gains that Add Up over Time



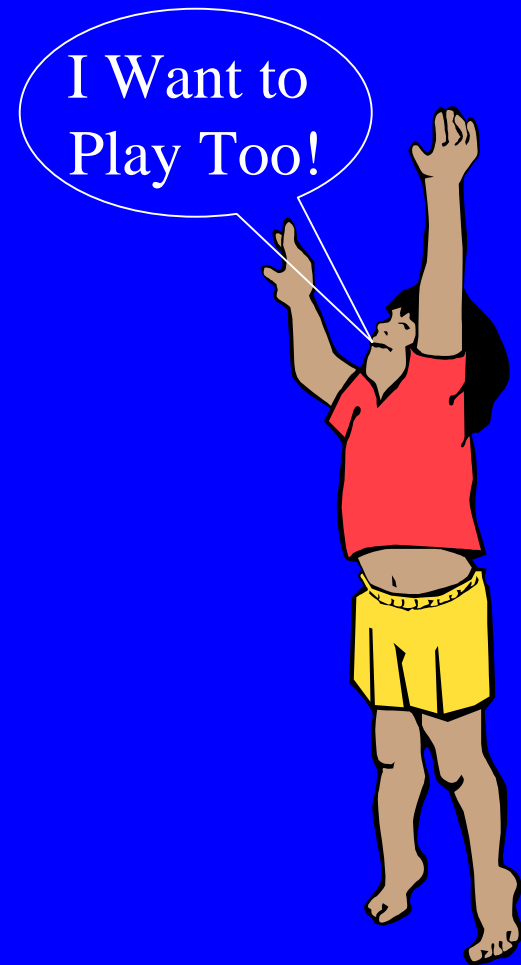
ARE WE THERE YET?

- Six Sigma in Two Months
- This Methodology is a Failure
- Long and Dedicated Process
- Hershey & Whirlpool ERP Failures



ME TOO!! ME TOO!!

- EMT Project Selection and Other Mgt Levels Jump on Board
- I have a Project: Let's call it Cix Cigma
- Resource Allocation
- Focus on Top Business Priorities



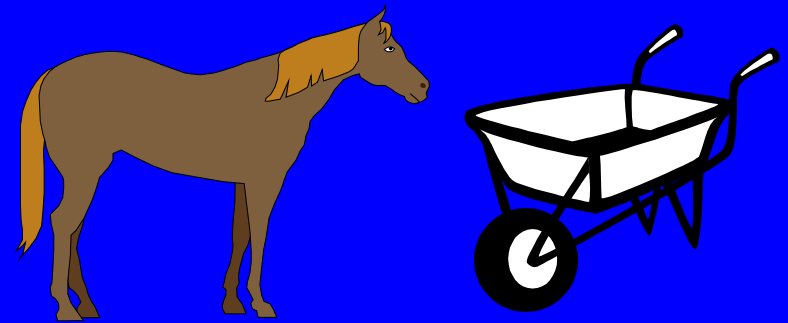
IT DOES NOT COMPUTE!

- Critical IT Resources
- Resource Constraint
- Other Projects, Upgrades and Enhancements in Competition for IT
- Balancing Act or Resistance to Change



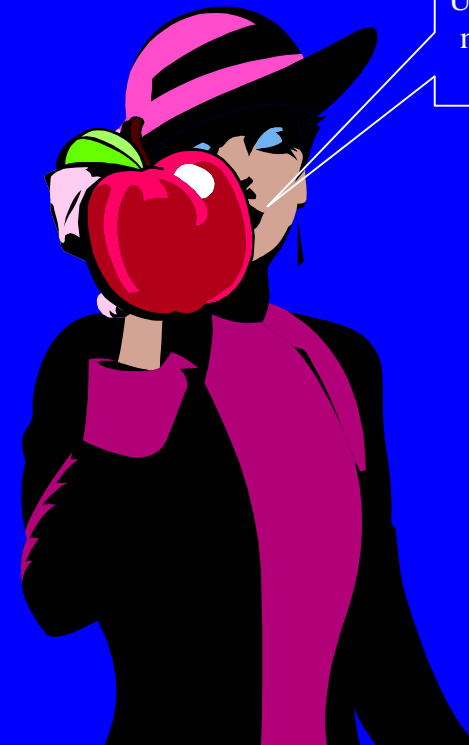
Cart Before the Horse

- Excited to get Going
- Teams get Going Before Training
- Teams go Without Adequate Resources
- Risk of Early Failures
- Hard to Recover From Cultural Bias



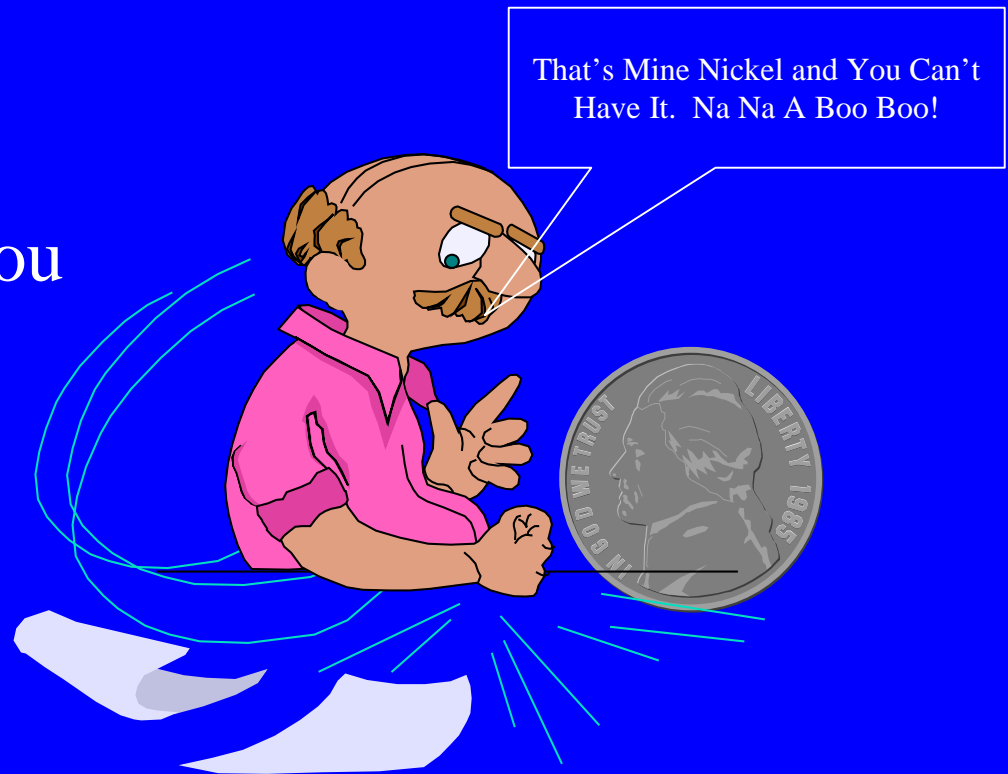
BITE OFF MORE THAN YOU CAN CHEW!

- Urge to Create Many Six Sigma Teams
- Resource Allocation
- Quality Circles/QIT All Over again
- Lots of Activity, with Little Results
- Dedicated Resources or No New Teams



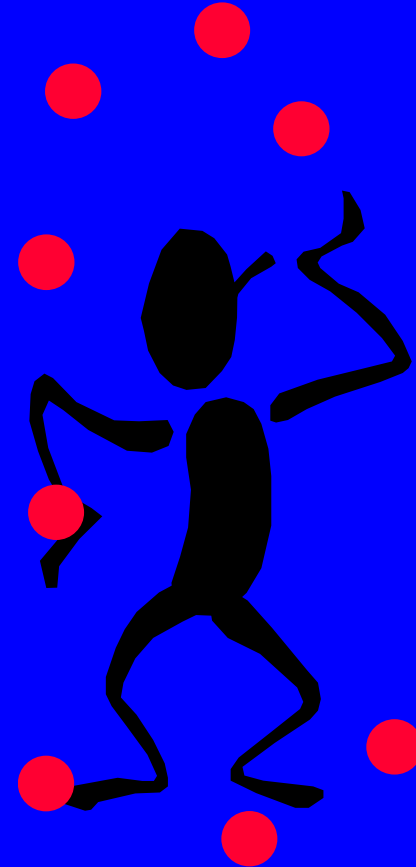
NOT ON MY NICKEL

- Require Resources Outside of Span of Control
- Assign Resources You Can Most Afford
- GE Assigns Best Resources
- Agreement Between Management



PILE THE PLATE TO OVERFLOWING

- Add Six Sigma Project to Plate Without Even the Parsley Removed
- Affect Morale of Go-Getters Can't Juggle That Much
- Dedicate the Best Resources, but Resource Level the Work



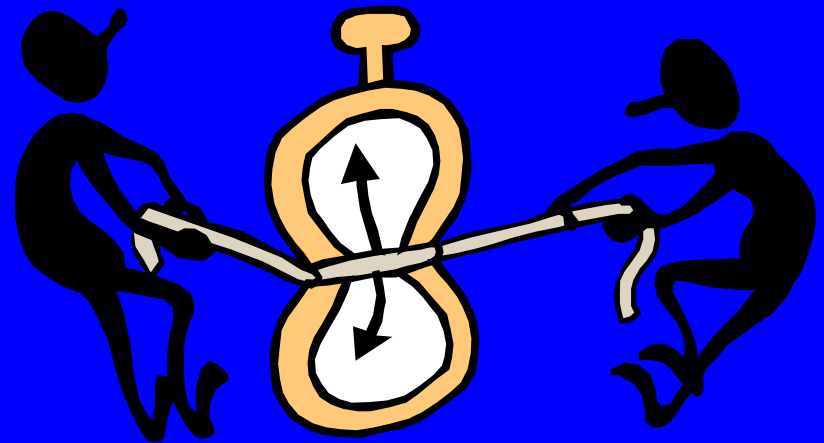
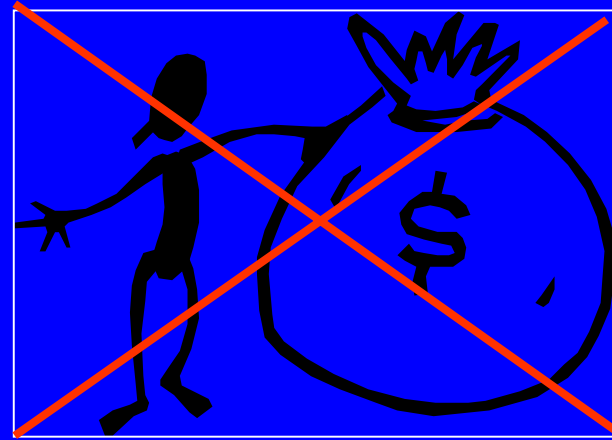
MORE THAN A MEASURE

- 3.4 Defects per Million Opportunities and That's All Folks
- Misunderstand the Whole Methodology
- Need to Focus on Strategic Objectives
- Need Effective Communication and Training About the Initiative



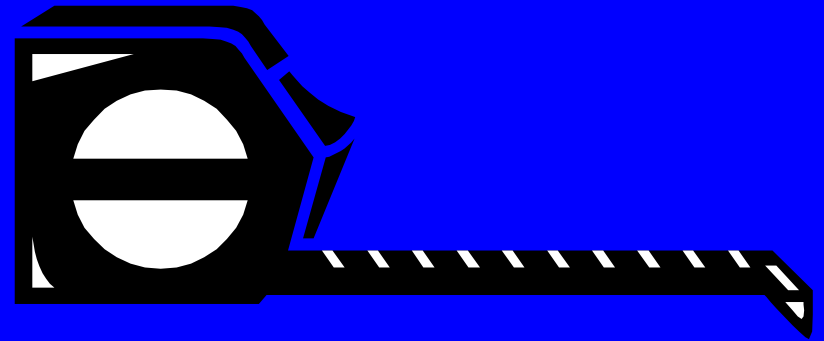
JUST ALREADY IMPROVE (AI)

- Skip the Define, Measure and Analyze.
- We Can Save Time - Just Jump Straight to Improve in DMAIC
- Band-Aid Fix
- Need the First Part to Get to Root Cause



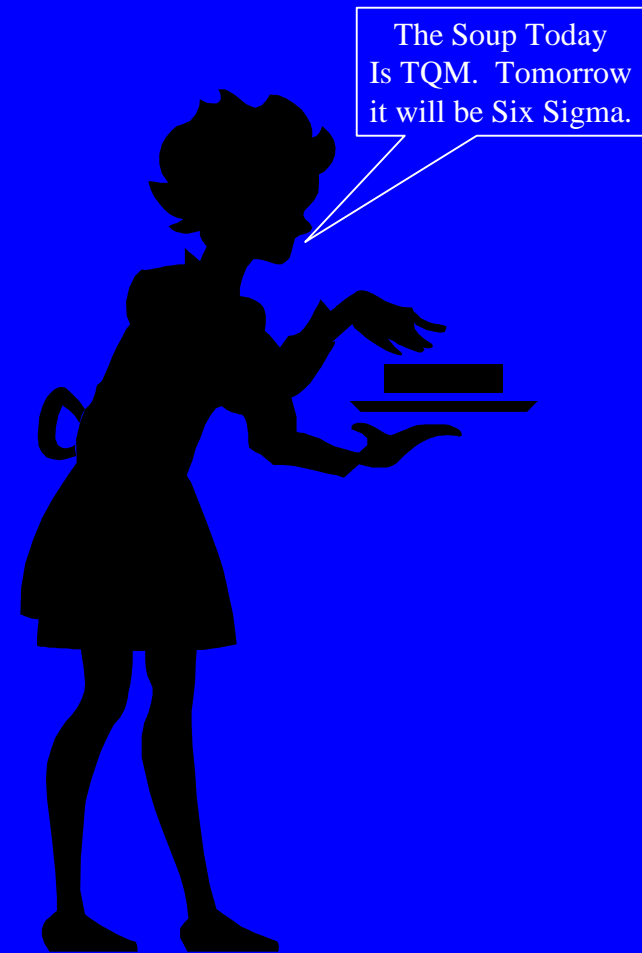
TOO MEASURE OR NOT TO MEASURE

- That is the Question?
- Critical to Quality measures that translate the VOC into VOP
- 100 Opportunities for Defects or only one
- Right Measures and Balance of How Much



QUALITY PROGRAM DU JOUR

- TQM, QIT, Quality Circles, SPC, Deming, Duran, Zero Defects
- Learn the Buzz Words
- This Program Shall Too Pass Into the Void
- Need Buy-in at All Levels/Commitment for the long term

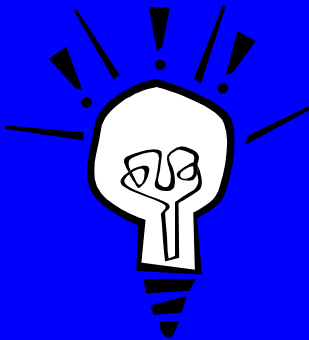




CLARIFICATION



QUESTIONS



INSIGHTS