

# I don't just teach..... I inspire

KASHIF  
AKRAM

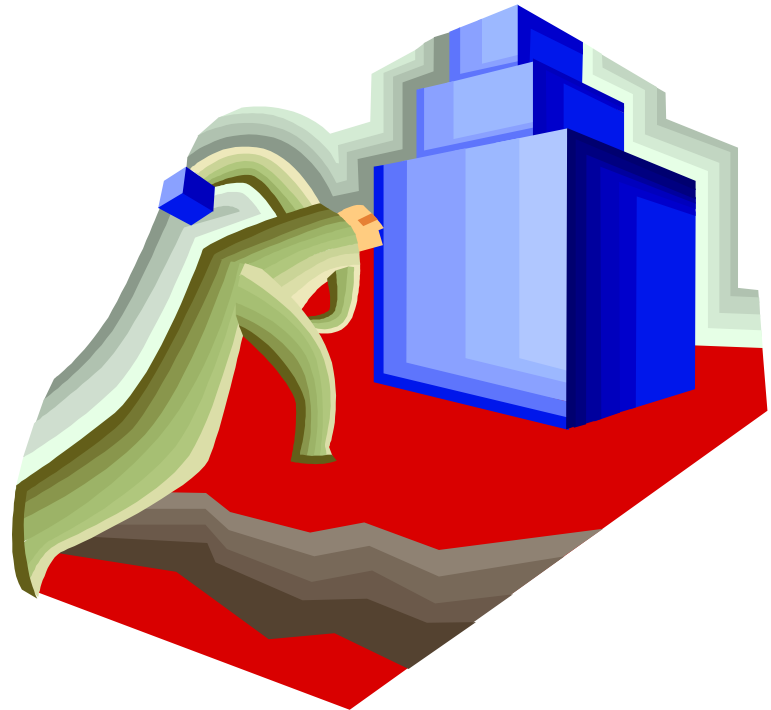


# Decision Making and Process Improvement



## Processes

- Sets of related tasks or activities by which work is accomplished.



# Operational Definition

## Continuous Process Improvement–

A comprehensive philosophy of operations that is built around the concept that there are always ways in which a process can be improved to better meet the needs of the customer and that an organization should constantly strive to make those improvements.

Source: DoD Continuous Process Improvement Transformation Guidebook

# Why Continuous Improvement Process

In today's climate a business that does not  
change  
doesn't survive.

A large shark, likely a Great White, is shown swimming in the ocean. The shark is white with a dark stripe along its side and is moving towards the left. The water is a deep blue. The shark's mouth is slightly open, showing its teeth. The overall image conveys a sense of power and survival in a competitive environment.

**SURVIVAL**

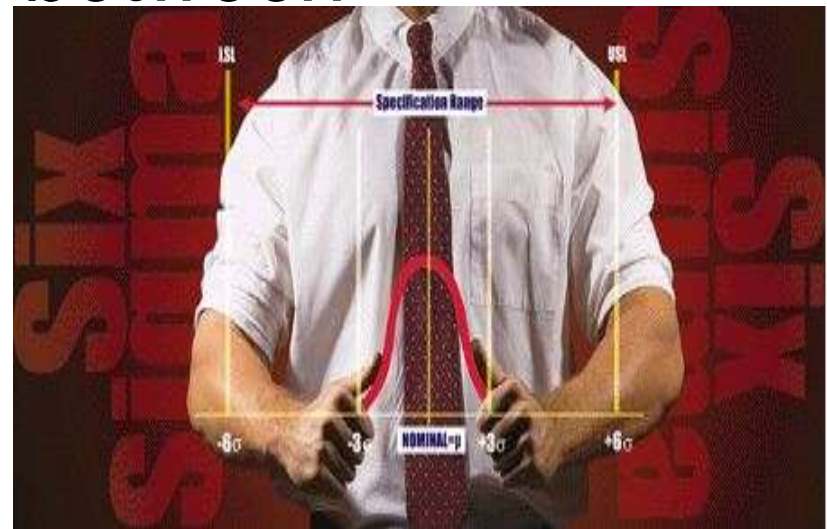
# History of CPI

From caveat emptor

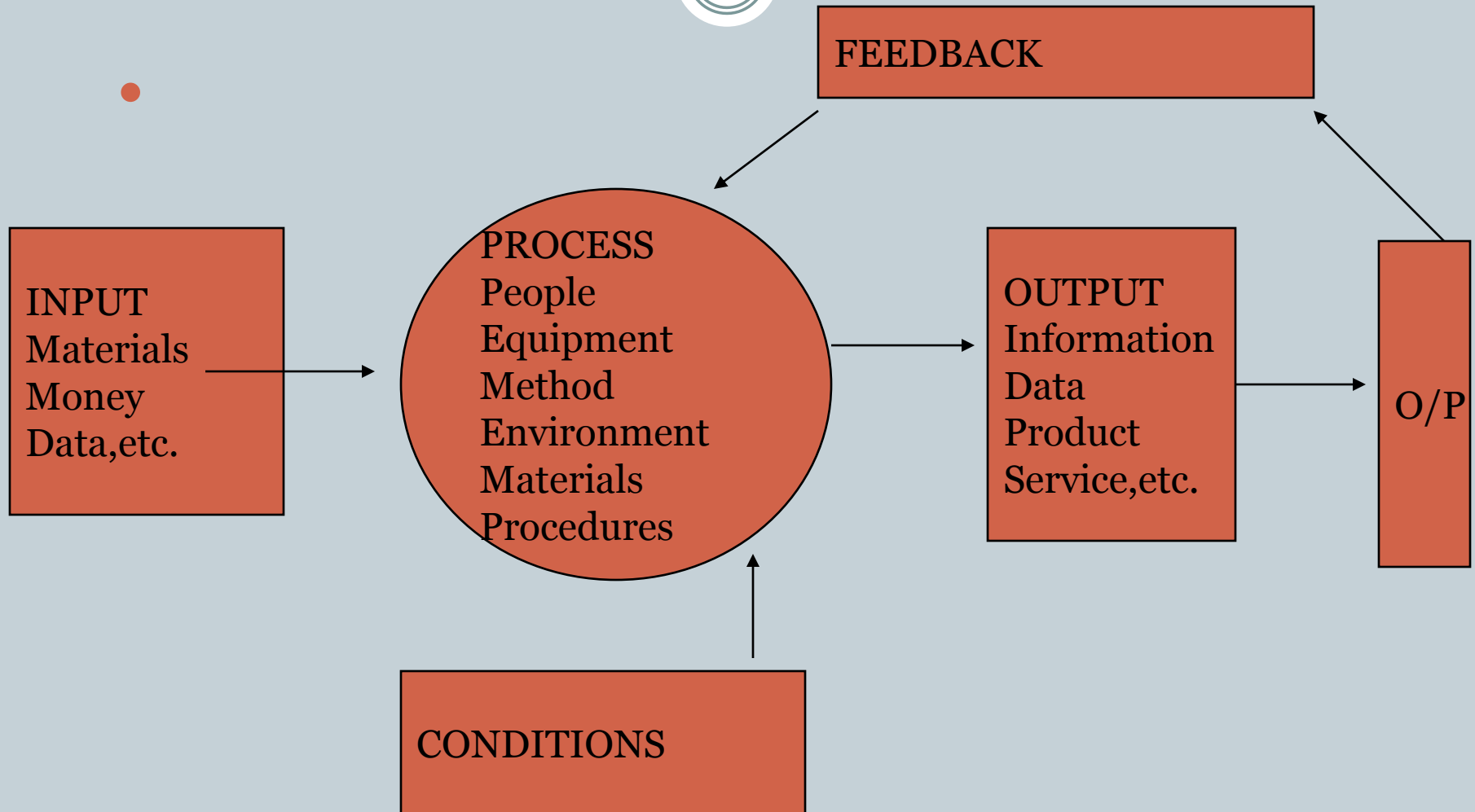


*And everything in between*

...Lean Six Sigma



# Continuous Process Improvement





# Five ways to Improve a Process

- **Reduce resources**
- **Reduce errors**
- **Meet or exceed expectations of internal/external customers**
- **Make the process safer**
- **Make the process more satisfying to the person doing it.**

# The Juran Trilogy

- To attain quality you must begin by establishing the vision, policies and goals of the organization. Converting these goals into results is done through three managerial processes called the JURAN TRILOGY. (aka the three universal processes for managing for quality)

- 1. Quality Planning
  2. Quality Control
  3. Quality Improvement

- *Source: Juran Quality Control Handbook, Fifth Edition*



# THE JURAN TRILOGY

- “Quality does not happen by accident, it must be planned.”
- **1. Quality Planning: The structured process for designing**
  - products and services that meet new breakthrough goals and
  - ensure that customer needs are met.



# THE JURAN TRILOGY

STEPS in the quality planning process:

1. Establish the project
2. Identify the customers
3. Discover the customer needs
4. Develop the product
5. Develop the process
6. Develop the controls and transfer to operations

# THE JURAN TRILOGY

- **2. Quality Control: a universal managerial process for**  
conducting operations so as to provide stability—to prevent adverse change and to “maintain the status quo”

## **Quality control can also**

be described as “a process for meeting the established goals by evaluating and comparing actual performance and planned performance, and taking action on the difference”



# The Juran Trilogy

The Quality Control Process:

1. Choose control subject
2. Establish Measurement
3. Establish standards of Performance
4. Measure Actual Performance
5. Compare to Standards (interpret the difference)
6. Take action on the difference

## **“ALL IMPROVEMENT TAKES PLACE PROJECT BY PROJECT”**

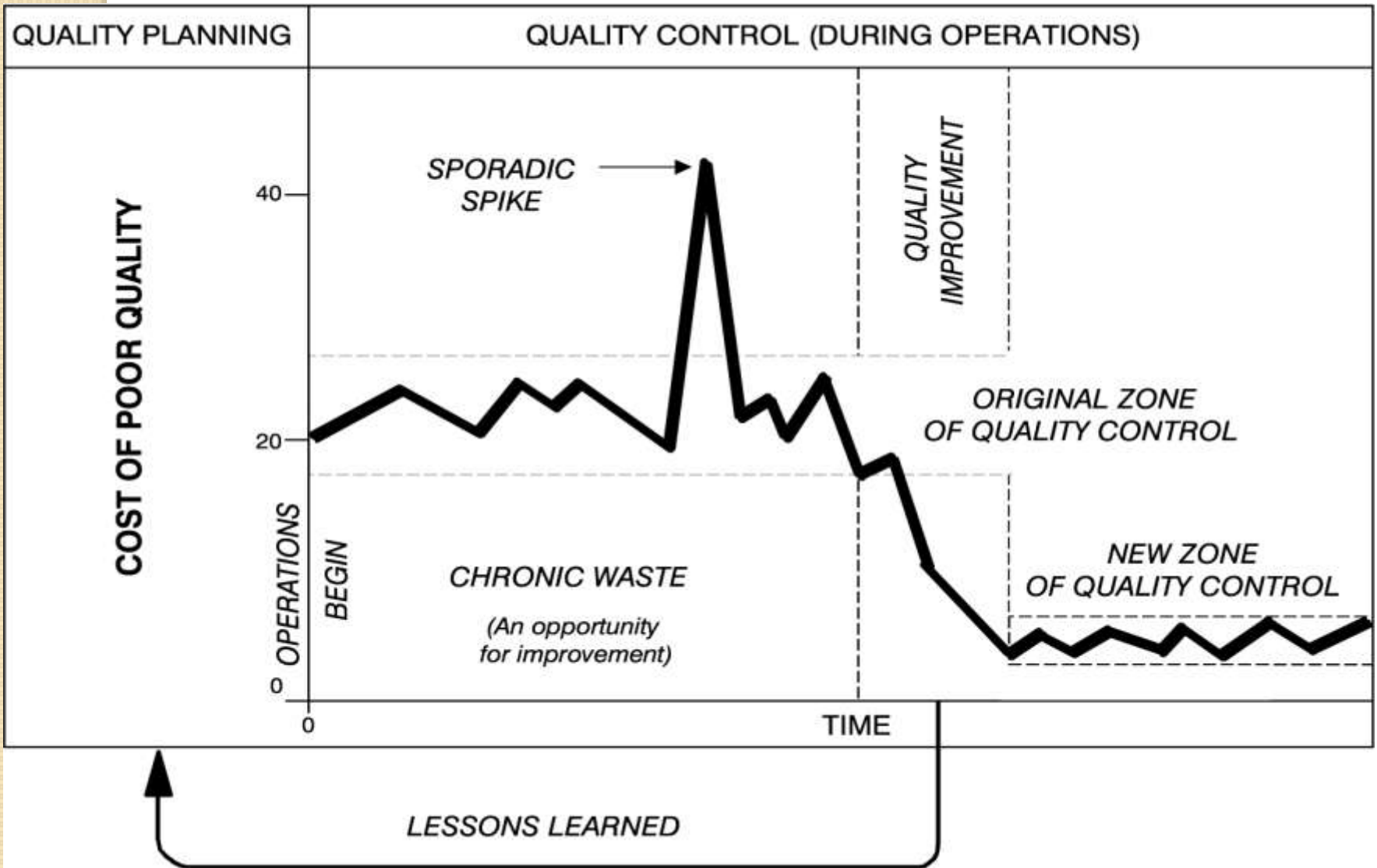
- Prove the need for improvement
- Identify the improvement projects
- Establish project improvement teams

Provide the project teams with resources, training, and motivation to:

- diagnose the causes
- stimulate the remedies
- establish controls to hold the gains

### **3. Quality Improvement:**

**The process for creating breakthrough levels of performance by eliminating wastes and defects to reduce the cost of poor quality**



# WHAT IS JURAN TRILOGY

## - PARALLELS FINANCE

March 29, 2006

Quality and Finance Parallels		
Trilogy Processes		Financial processes
Quality planning	◇	Budgeting
Quality control	◇	Cost control; expense control
Quality improvement	◇	Cost reduction; profit improvement

Source: Adopted from Juran, J. M. (August 1986). "The quality trilogy: A universal approach to managing for quality". Quality Progress, 19(8), 19-24

- Quality Trilogy resembles the financial processes model

# Four Improvement Strategies

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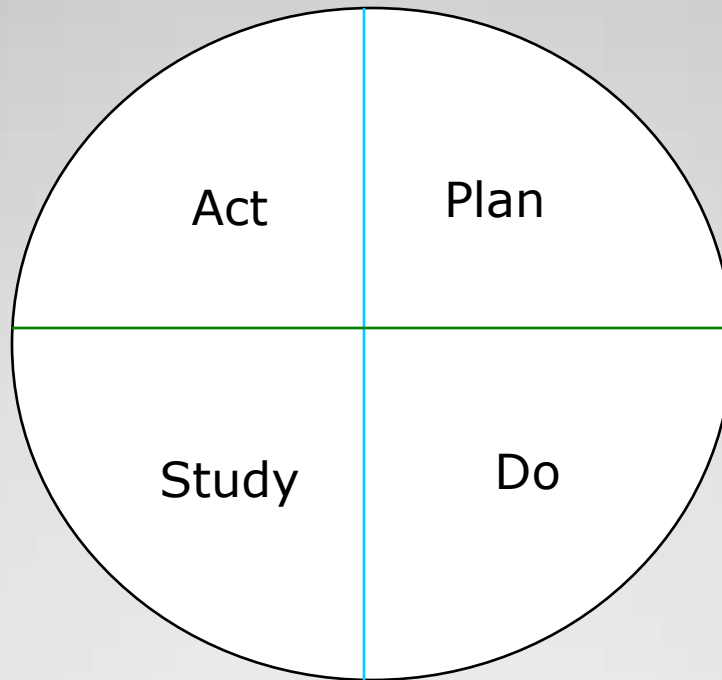
- **Repair**
- **Refinement**
- **Renovation**
- **Re-invention**



# Five types of Problems

- Compliance
- Unstructured
- Efficiency
- Process Design
- Product Design

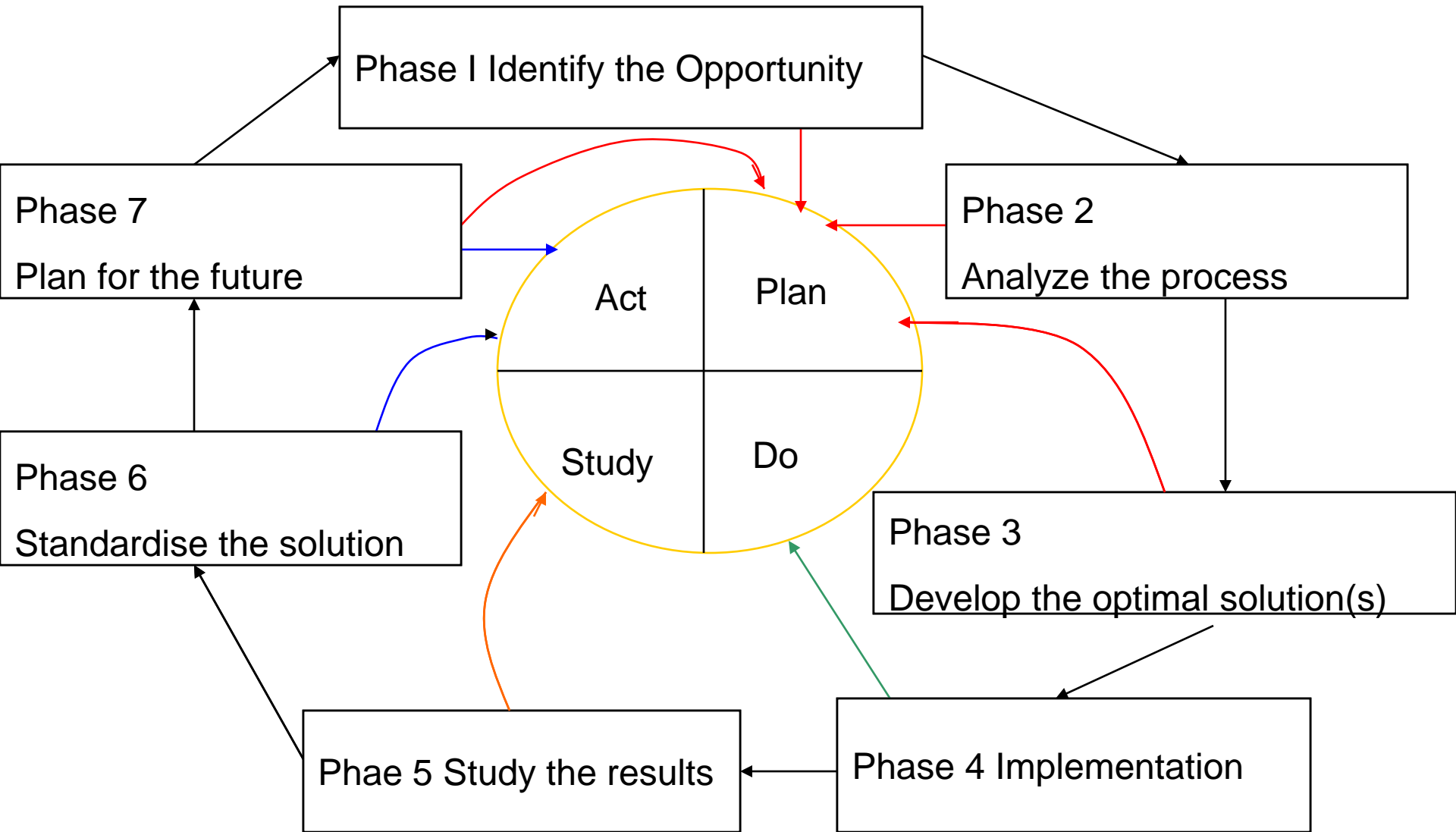
# THE PDOSA cycle



# Problem Solving: A Continuous Effort

1. Identify problems as an opportunity
2. Analyze the problem: to find root causes
3. Develop optimal and cost effective solutions
4. Implement changes: system wide
5. Study the results: worked or not? Need adjustment?
6. Standardize solution: Keep problems from reoccurring.
7. Plan for the future

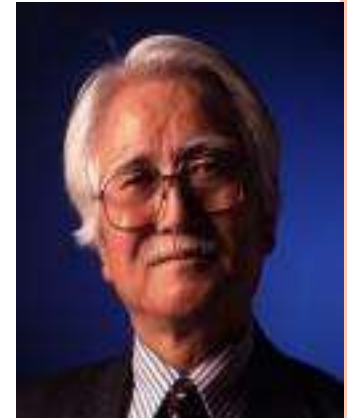
# Continuous Process Improvement cycle



# OVERVIEW OF TOOLS - KAIZEN

**The Kaizen philosophy assumes that our way of life—be it our working life, our social life, or our home life deserves to be constantly improved.**

Maasaki Imai



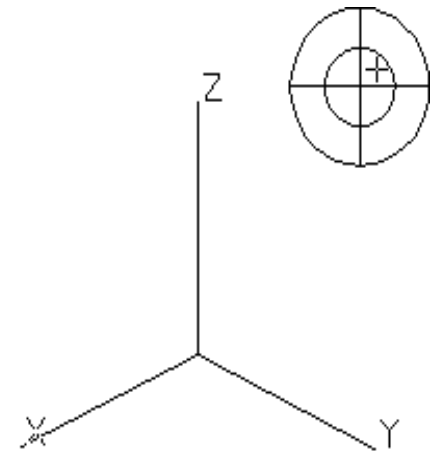
- Japanese term – “Kai”- meaning continuous  
“zen”- meaning improvement
- Small scale continuous improvements
- Incremental steps- addresses single problem
- Rapid intense effort lasting 3-5 days
  - Known as Kaizen Events, Kaizen Blitz
  - Kaizen bursts 5-15 minutes in length
  - DoD Rapid Improvement Event



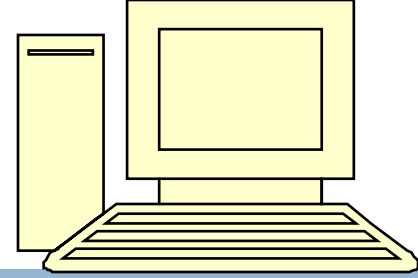
# Kaizen



- **Value and non-value added work activities**
- **Muda-seven classes of waste**
- **Principles of motion study and work-cell use**
- **Principles of materials handling and use of one-piece flow**
- **Documentation of standard operating procedures**
- **The 5S's**
- **Visual displays for communicating to factory personnel**
- **JIT- to produce right quantities at right time and with right resources**
- **Poka-yoke to prevent or detect errors**
- **Team dynamics – problem solving, comm., conflict resolu.**



# The 5S Method



- **Seiko** - **Sort ( Proper arrangement )**
- **Seiton** - **Set ( Systematic or Orderliness )**
- **Seiso** - **Shine ( Sweep or clean-up )**
- **Seiketso** - **Standard ( Personal cleanliness )**
- **Shitsuke** - **Sustain ( Self-discipline )**

# What is Six Sigma?

- A goal of near perfection in meeting customer requirements
- A sweeping culture change effort to position a company for greater customer satisfaction, profitability and competitiveness
- A comprehensive and flexible system for achieving, sustaining and maximizing business success; uniquely driven by close understanding of customer needs, disciplined use of facts, data, and statistical analysis, and diligent attention to managing, improving and reinventing business processes

(Source: The Six Sigma Way by Pande, Neuman and Cavanagh)



# 6 Sigma Process

