

# A PROCESS APPROACH:

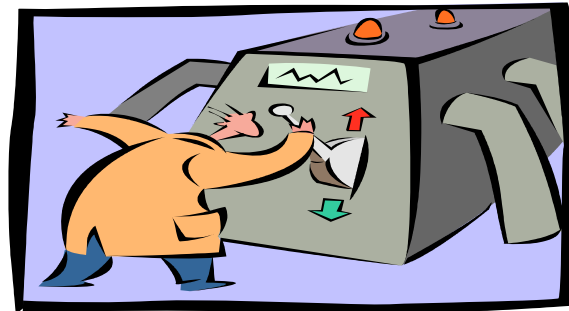
What Does It Mean?

Presented by  
Roger E Olson, Partner

# What is a Process?

## ISO 9000: 2000, Paragraph 2.4

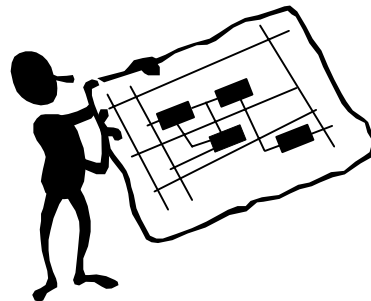
- Any activity, or set of activities, that uses resources to transform inputs to outputs can be considered as a process.



# What is a Process Approach?

## ISO 9000: 2000, Paragraph 2.4

- the systematic identification and management of these activities and the interactions between the activities

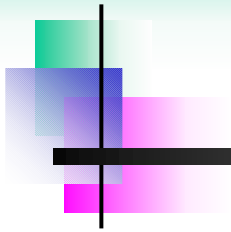




# Points to Consider

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- Organizations are comprised of numerous linked activities (processes) which must be managed, with the goal of meeting customer requirements
- Typically the output of one process directly forms the input of the next



A process approach emphasizes the importance of:

1. Understanding and meeting requirements
2. Determining if the processes add value
3. Determining process performance and effectiveness
4. Using objective measurement for continual improvement of the processes

# ISO 9001:2000

## 4.1 General requirements

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The organization shall:

- a) identify the processes needed for the quality management system and their application throughout the organization (see 1.2),
- b) determine the sequence and interaction of these processes,
- c) determine criteria and methods needed to ensure that both the operation and control of these processes are effective,
- d) ensure the availability of resources and information necessary to support the operation and monitoring of these processes,
- e) monitor, measure and analyze these processes, and
- f) implement actions necessary to achieve planned results and continual improvement of these processes.

***THIS IS THE PROCESS APPROACH!***



# Process Approach

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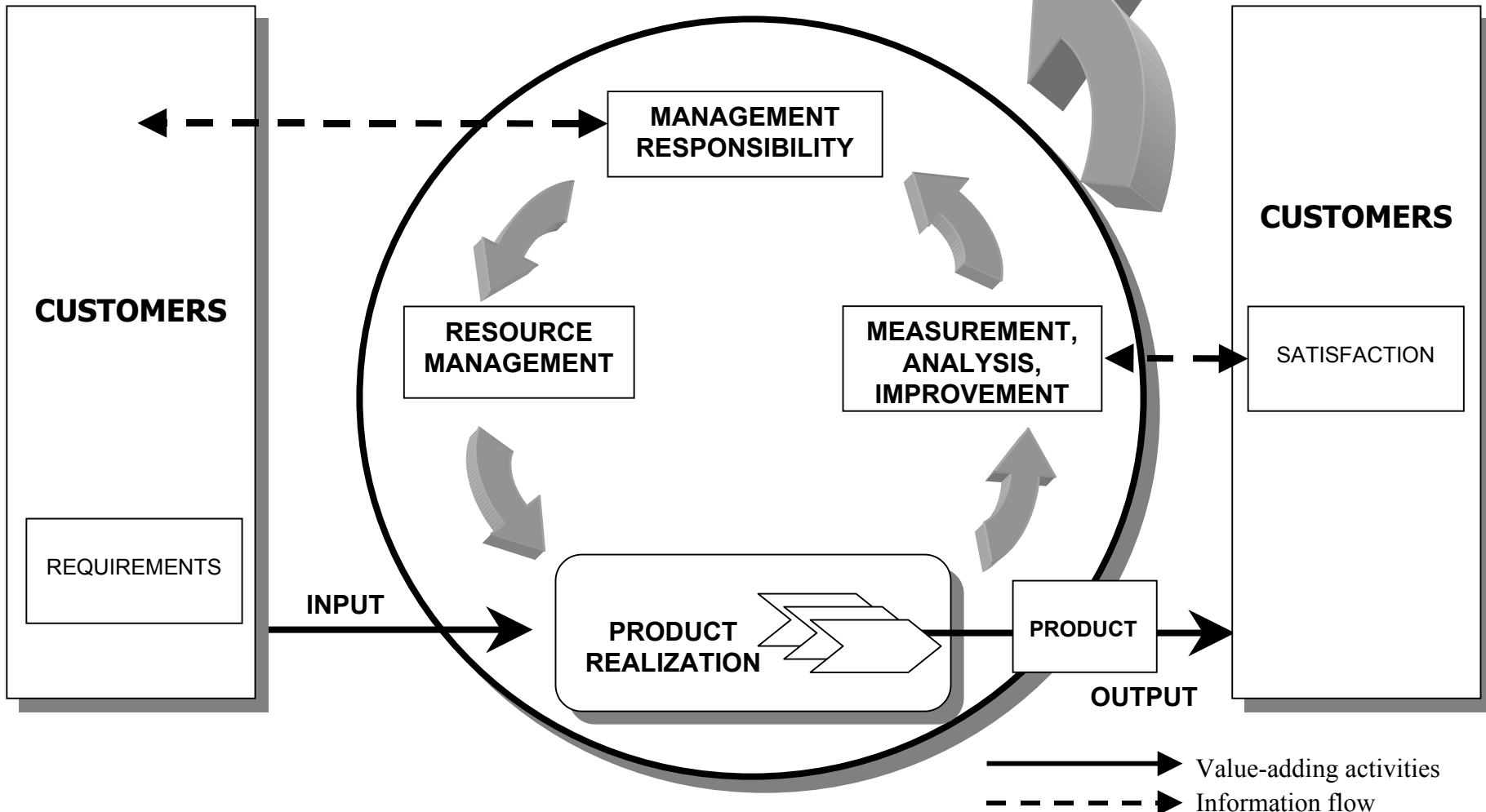
## Management Principle 4

A desired results is achieved more efficiently when related resources and activities are managed as a process.

- Focus on the use of resources in processes activities, leading to effective use of people, equipment, methods and materials

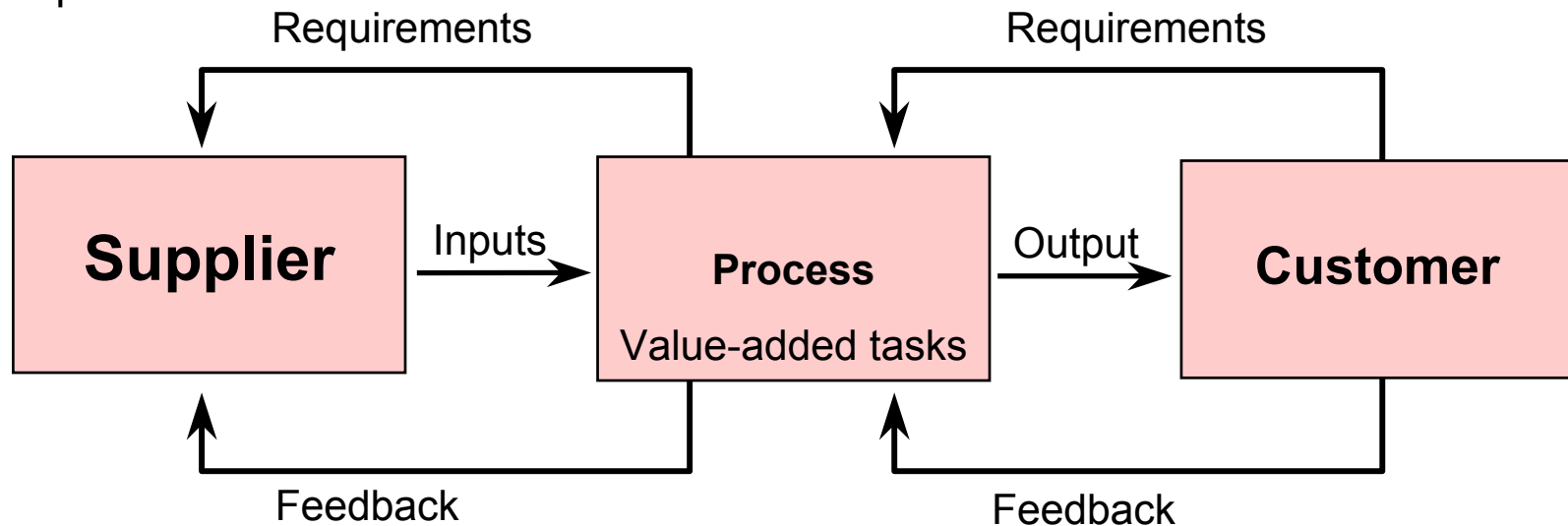
# Model of a Process-Based QMS

CONTINUAL IMPROVEMENT OF THE QUALITY MANAGEMENT SYSTEM





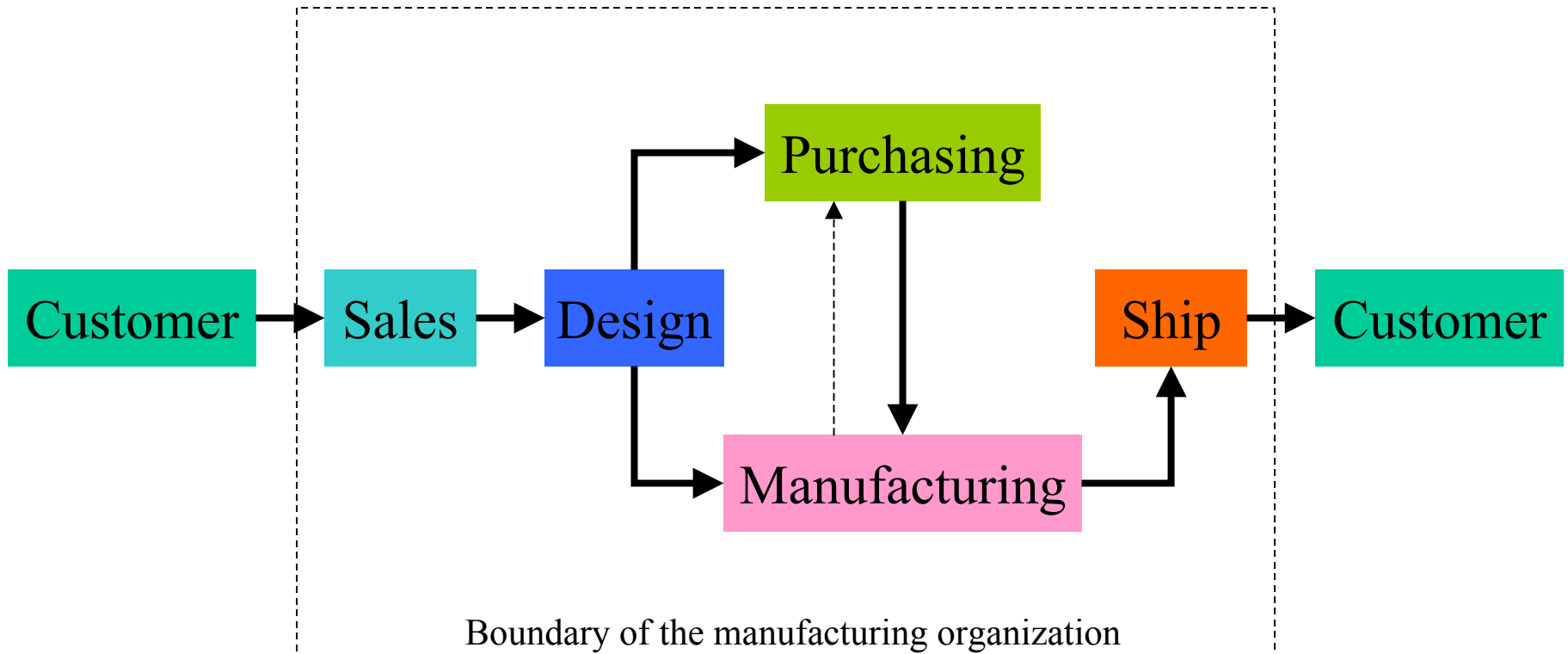
# All Work is a Process!



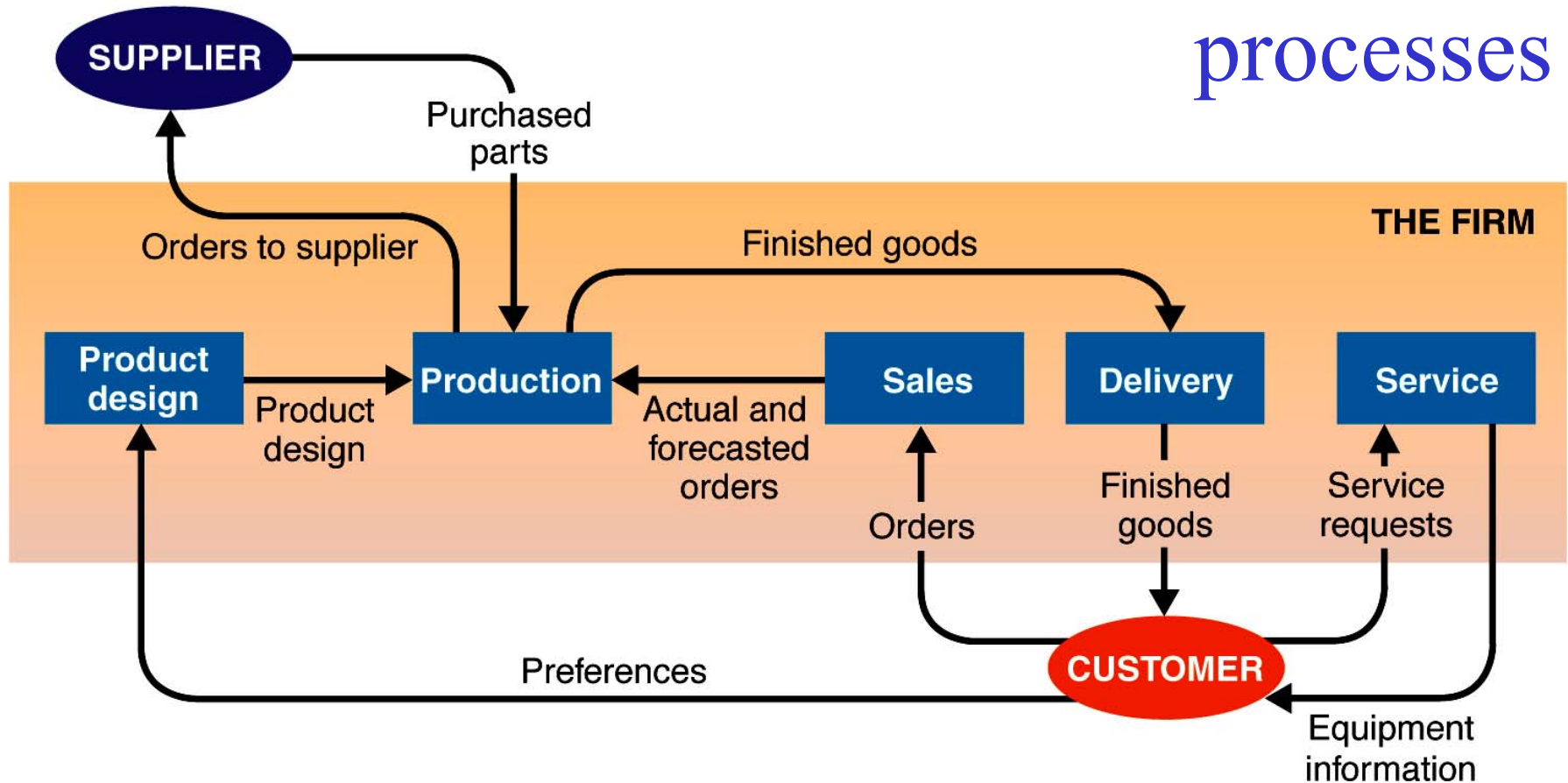
S. I. P. O. C.



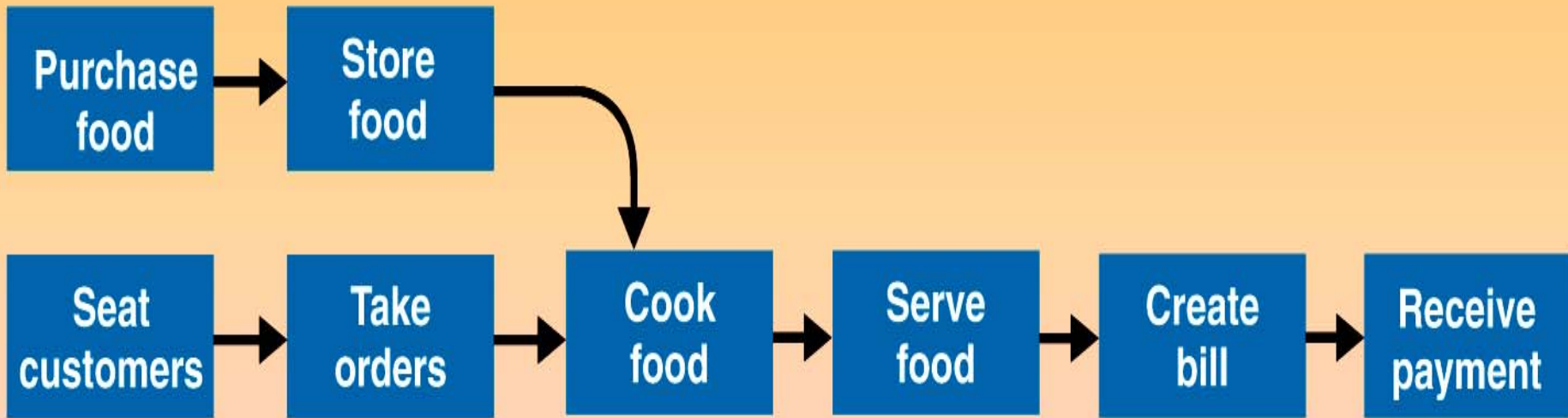
# Basic Process Model for a Business



# Viewing a firm as a system of interlinked and interdependent processes



# Business Processes for a Typical Restaurant



Plan

Do

Check

Act

4.1

A: Identify

B: Sequence & Interaction

C: Criteria & Methods

D: Resources

E: Monitor & Analyze

F: Actions

• Description

• Instructions

• Control limits

• Action instructions

• Inputs/outputs

• Customers

• Resources

• Run Process

• Use Plans

• Resources

• Validate

• Qualify

• Monitor

• Analyze data

• Actions to control and improve



# Managing a Process (Application of PDCA)

Plan

Do

Check

Act

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A: Identify

- Description

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# Managing a Process (Application of PDCA)





# PLAN

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- Are the inputs and outputs defined?
- Are there appropriate procedure and/or work instructions?
- Have the control actions been defined?
- Are the responsibilities for the process defined?



# DO

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- Are the process instructions being followed?
- Does the process need to be validated or qualified?
- Does the validation indicate that the process is capable?



# CHECK

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- Is the process being monitored?
- Does the data get to the person responsible for control of the process?
- Does the data indicate that the process is achieving planned results (outputs)?

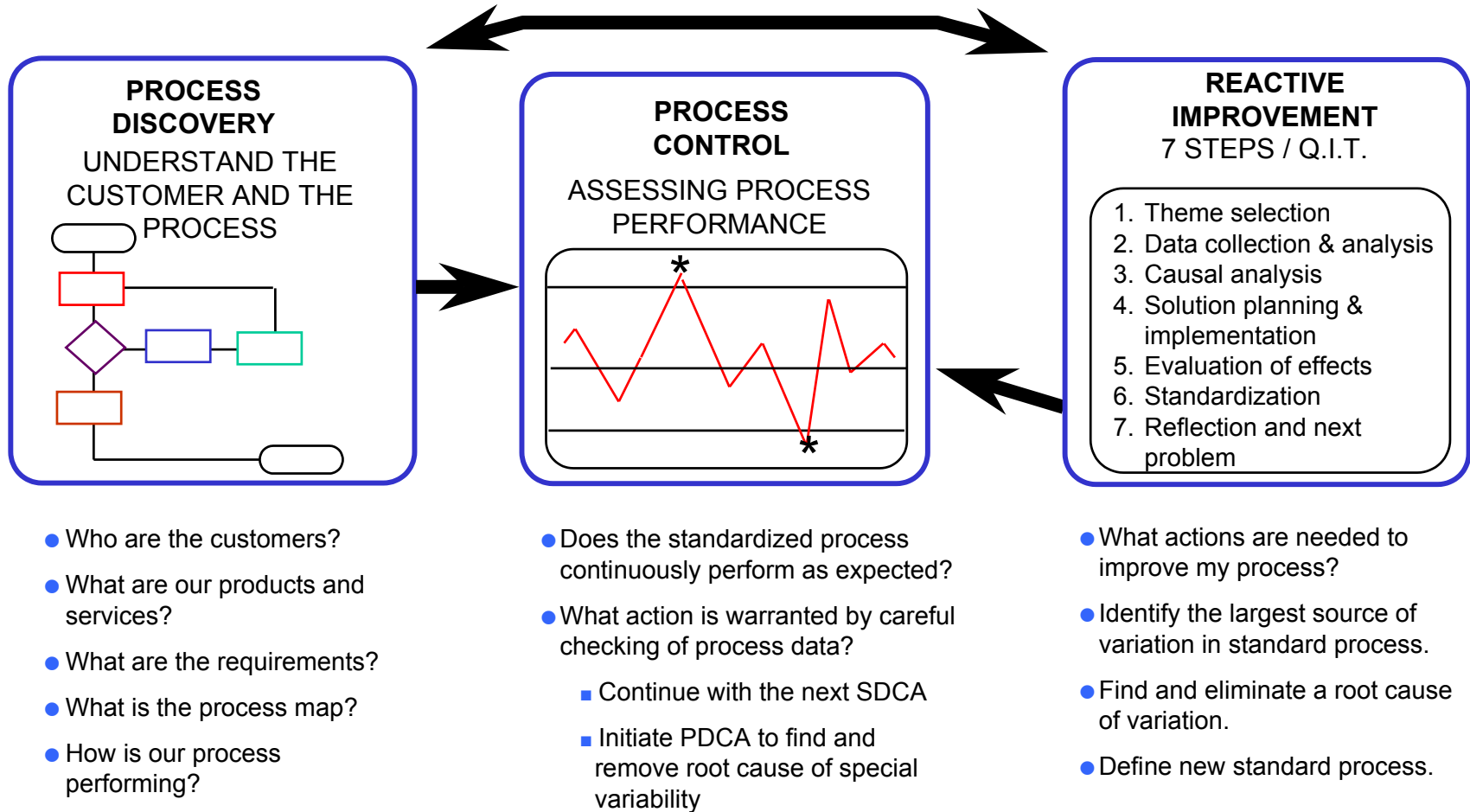


# ACT

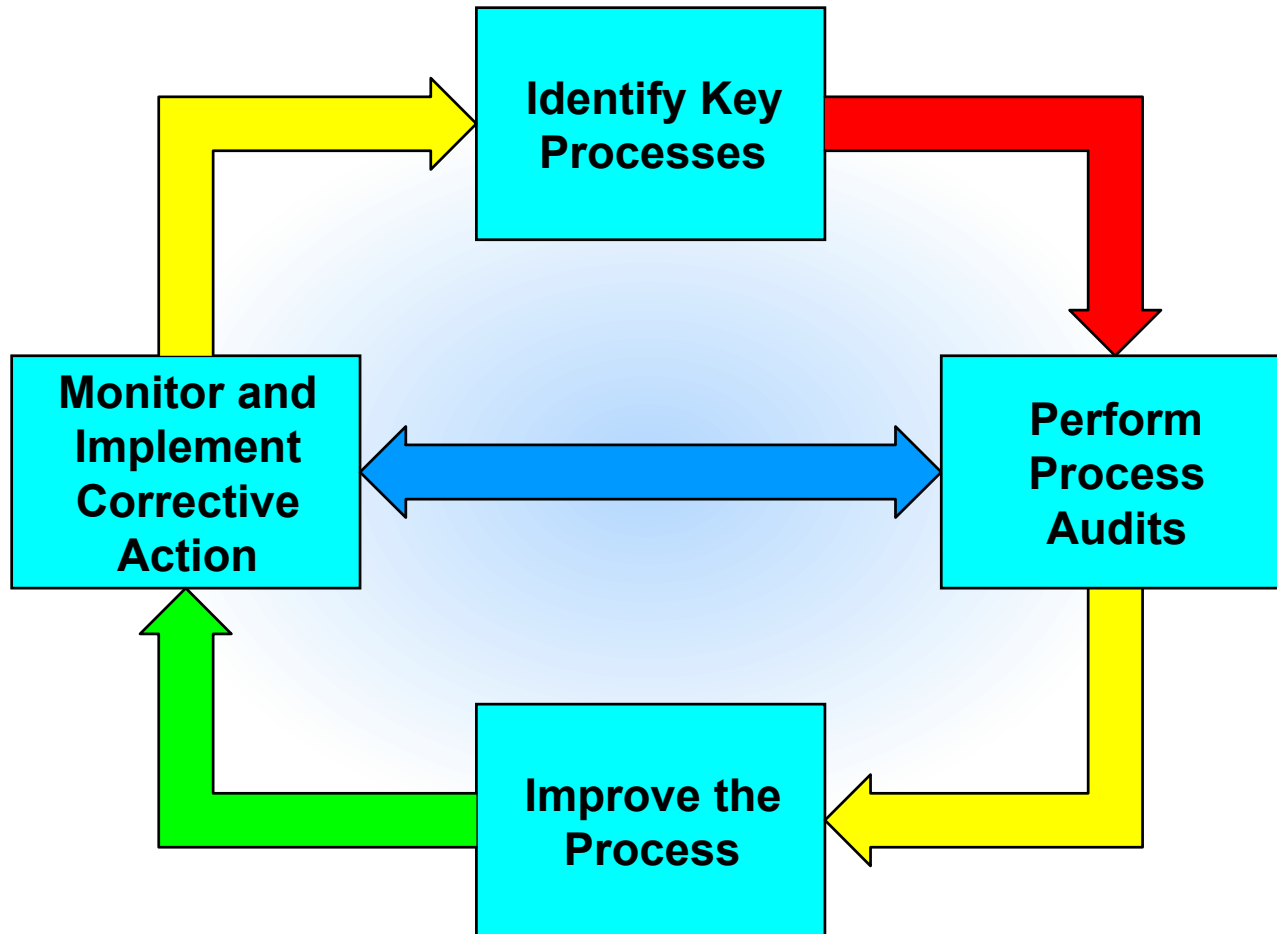
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- Are the actions taken if the process goes out of control?
- Are actions taken if the results (output) do not meet the plan?
- Is the process data analyzed for possible preventive action or improvement?

# Process Management Overview



# Process Management Activities

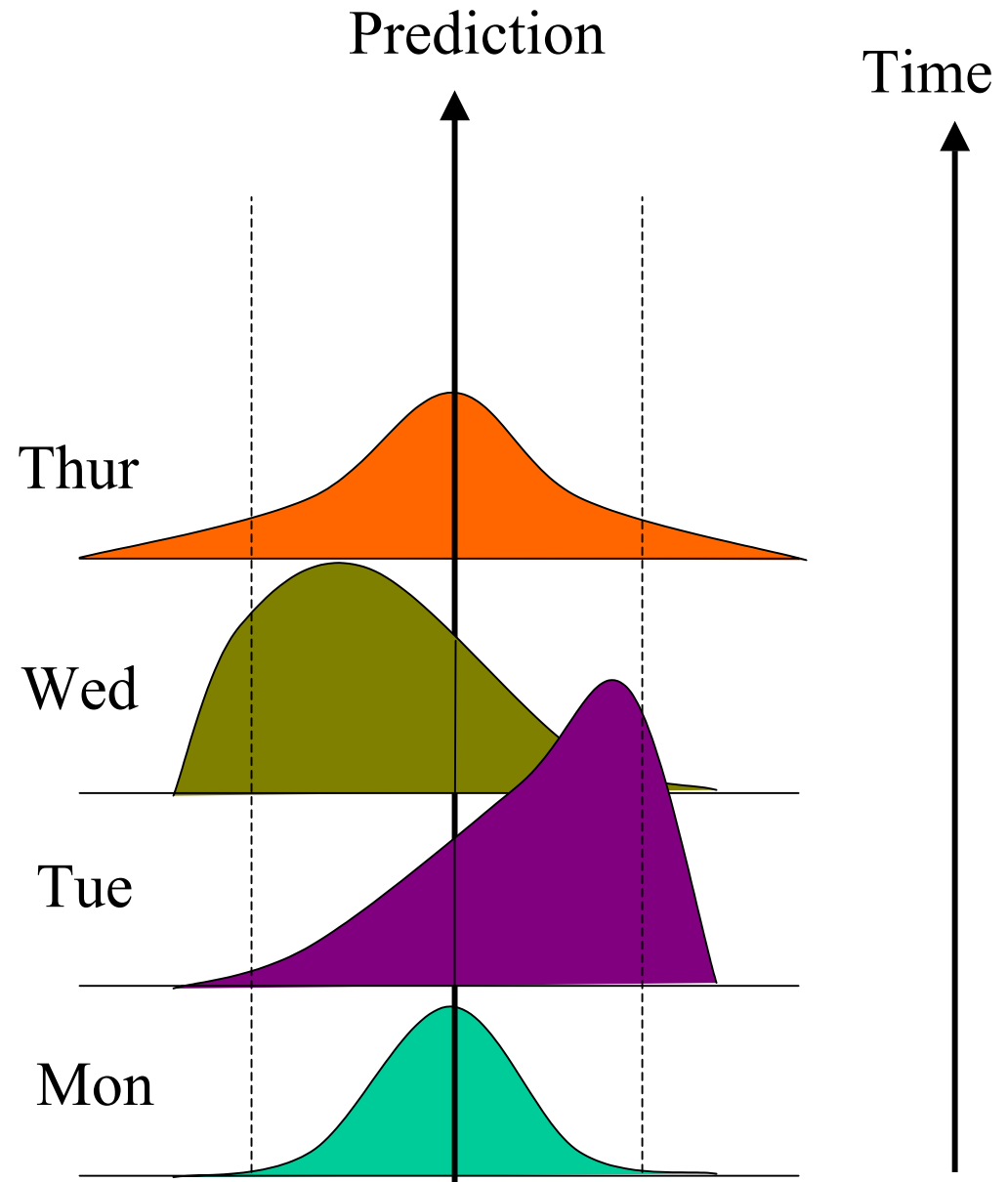


# Why Process Management?



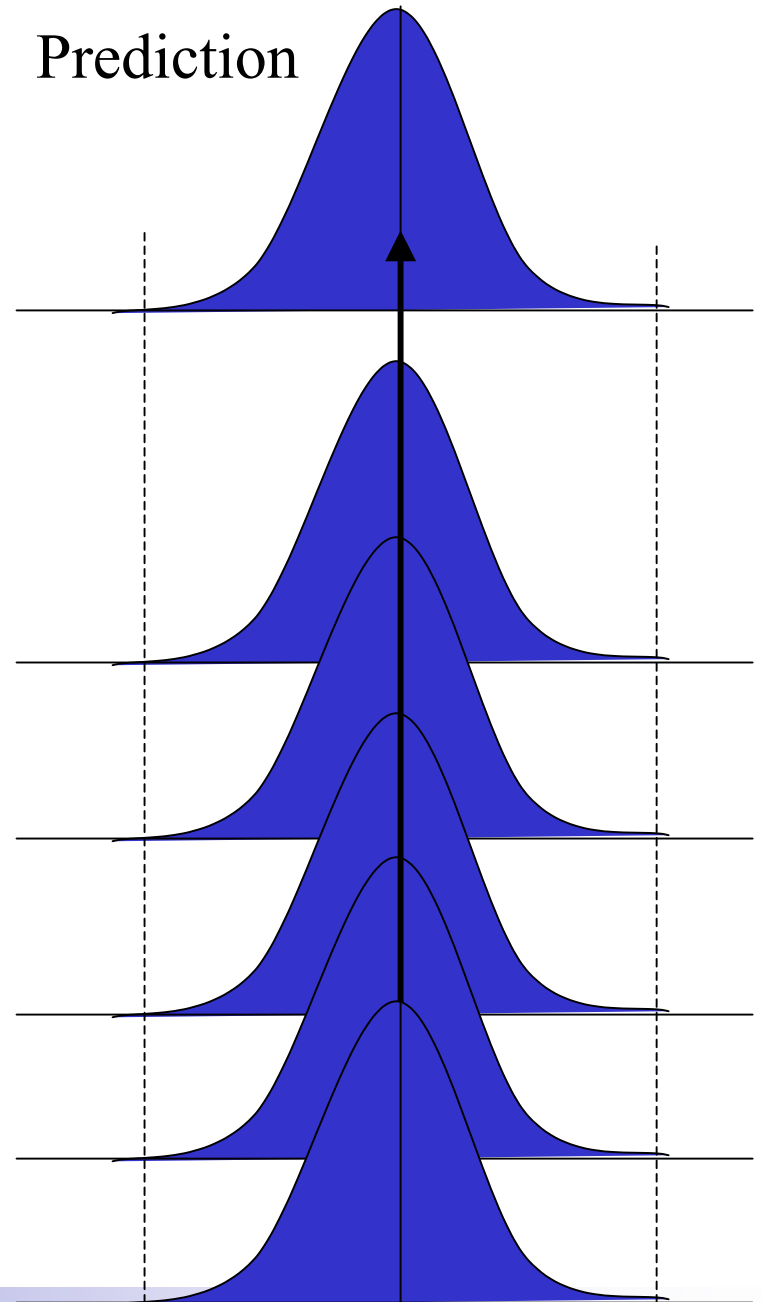
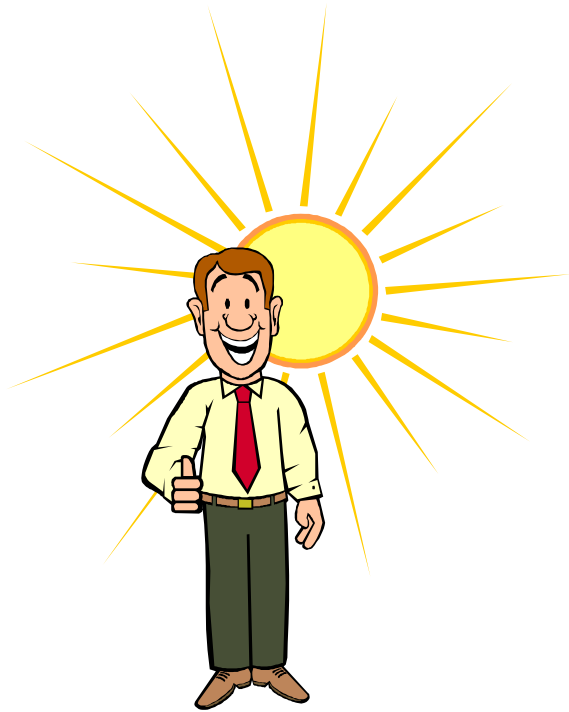
- Poor performance and unnecessary costs result from:
  - Outputs that do not meet customer requirements
  - Activities within processes that do not directly support or add value to customers
  - Inefficient process flows
- Processes determine how value is added, (i.e. customers are satisfied) and costs are incurred.
- Hence, designing, managing and continuously improving processes is the key to success.

If special or “assignable causes of variation are present, the process output is not stable over time and is not predictable



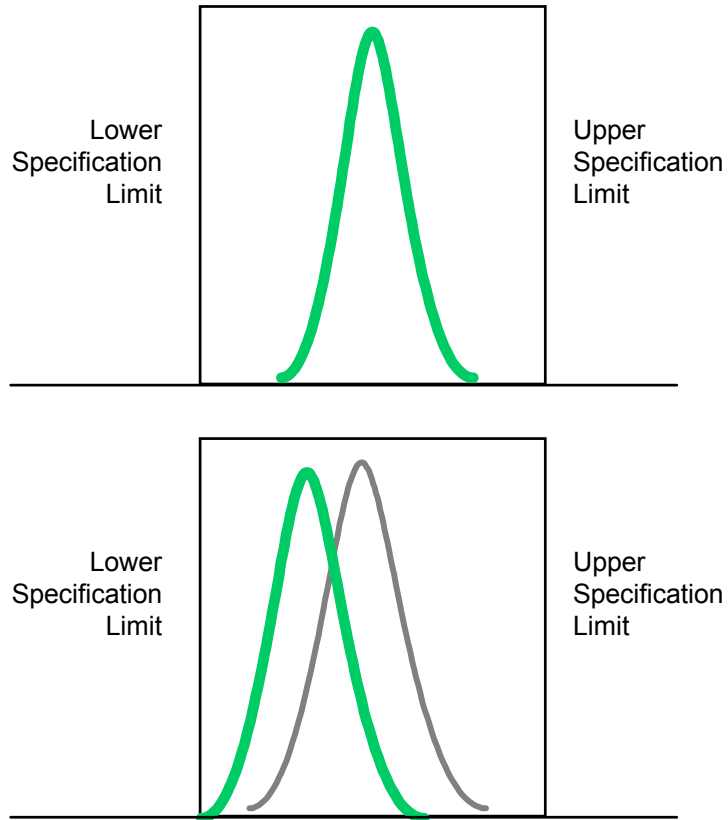


If only common causes of variation are present, the output of a process forms a distribution that is stable over time, and most important, it is predictable

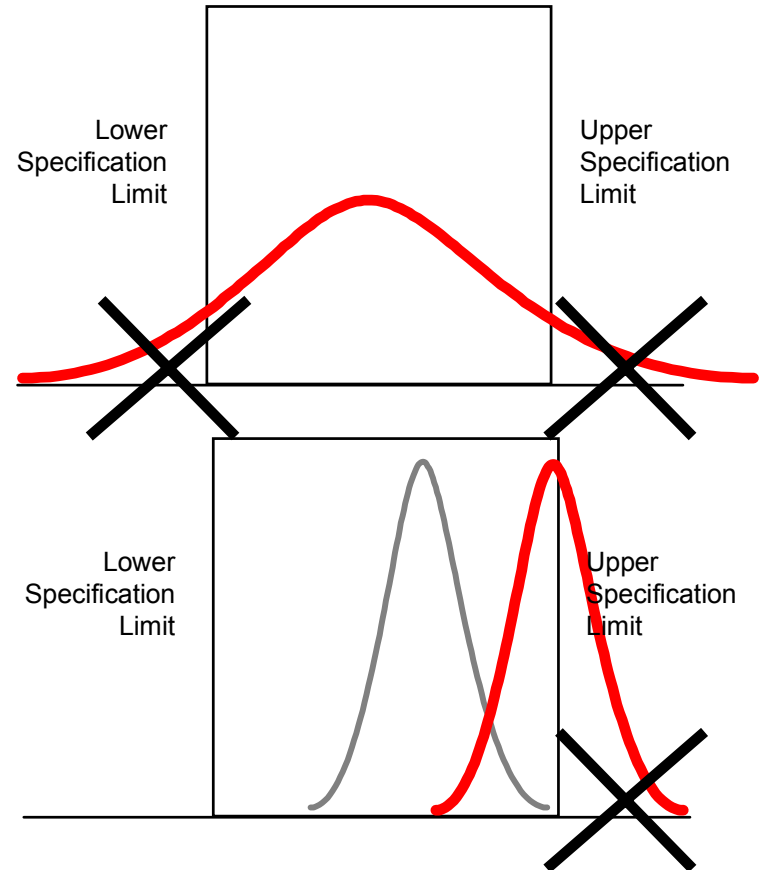


# Measure Spread & Variability

**GOOD: High Capability**



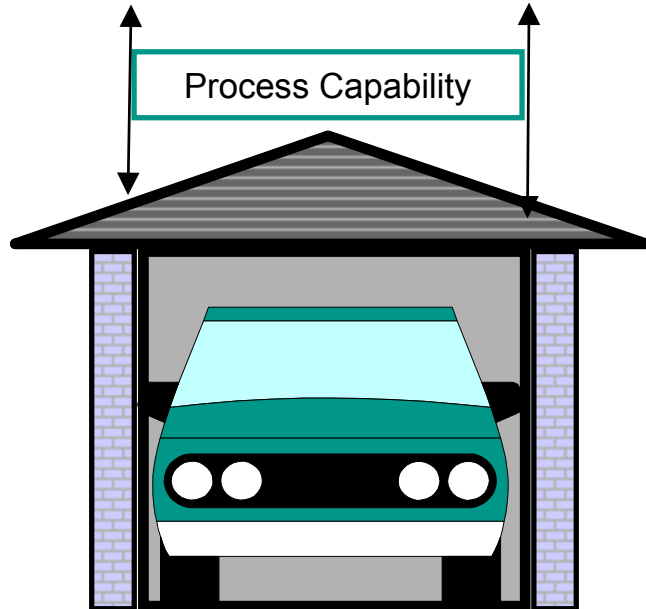
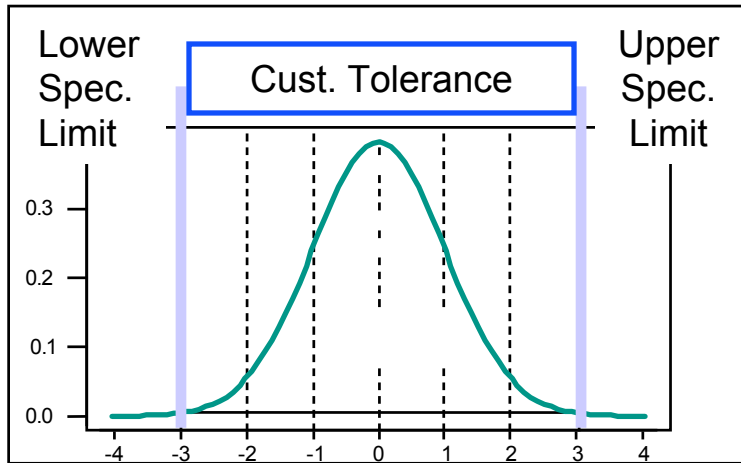
**BAD: Low Capability**



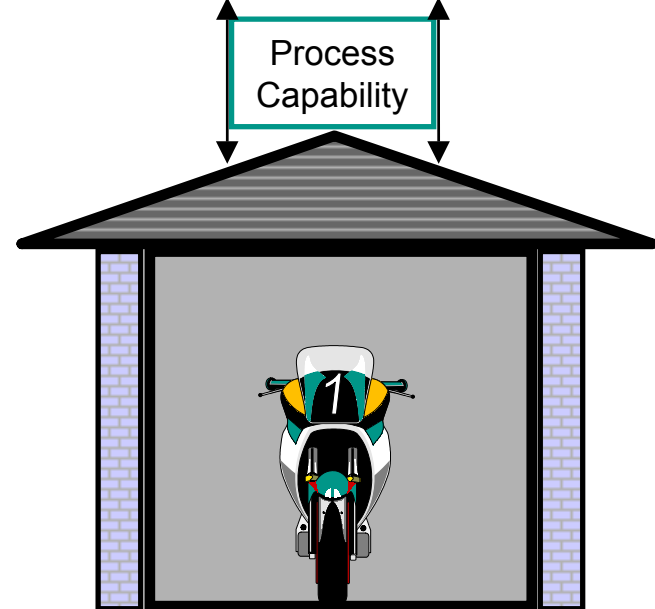
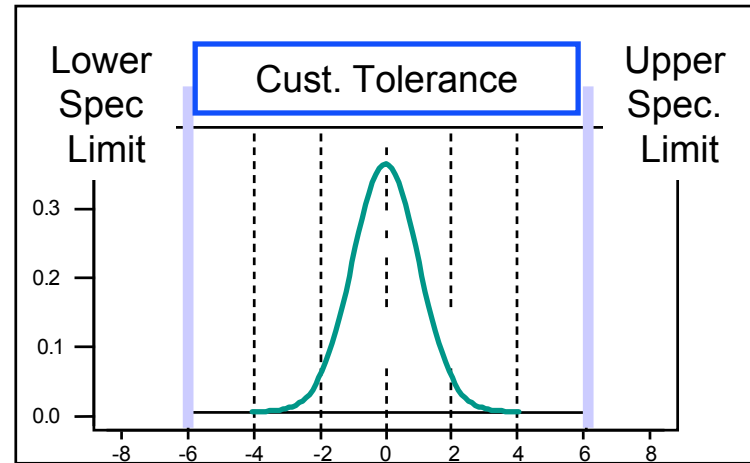
**This process is capable**

**This process is not capable**

# Visualizing Process Capability

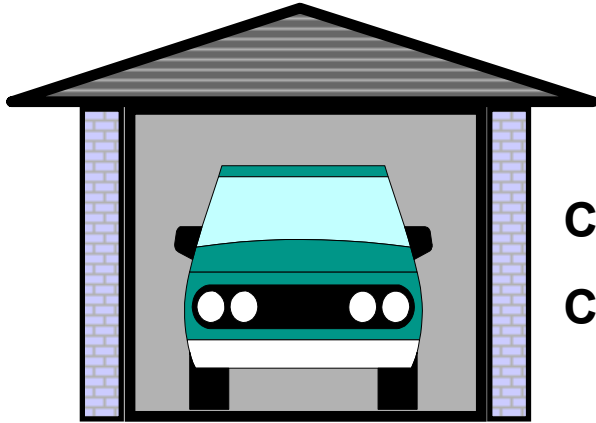


$C_p=1$



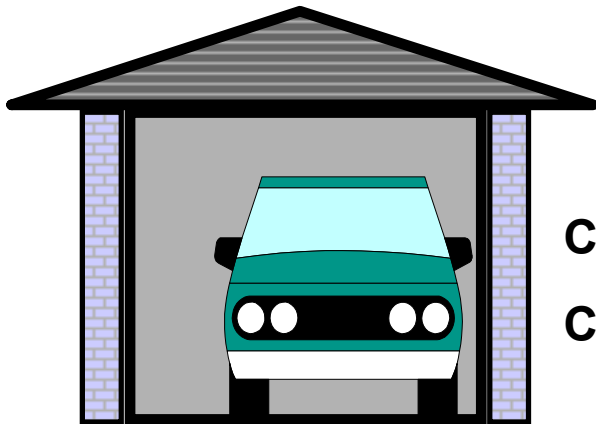
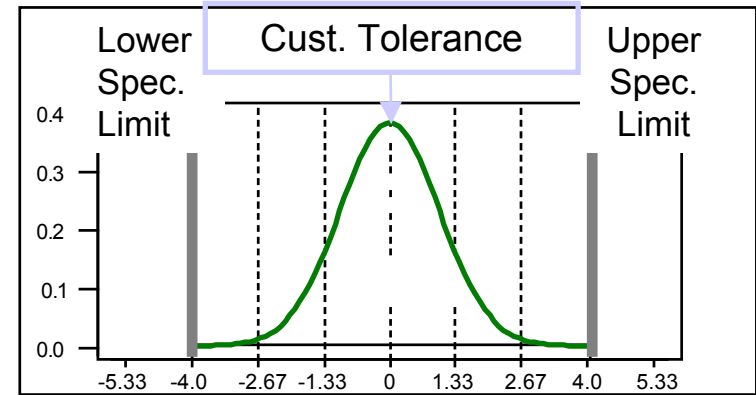
$C_p=2$

# Process is Off Target



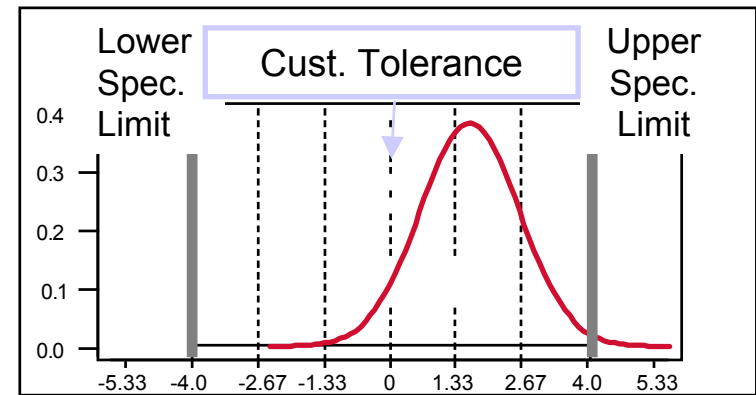
$$C_p = 1.33$$

$$C_{pk} = 1.33$$



$$C_p = 1.33$$

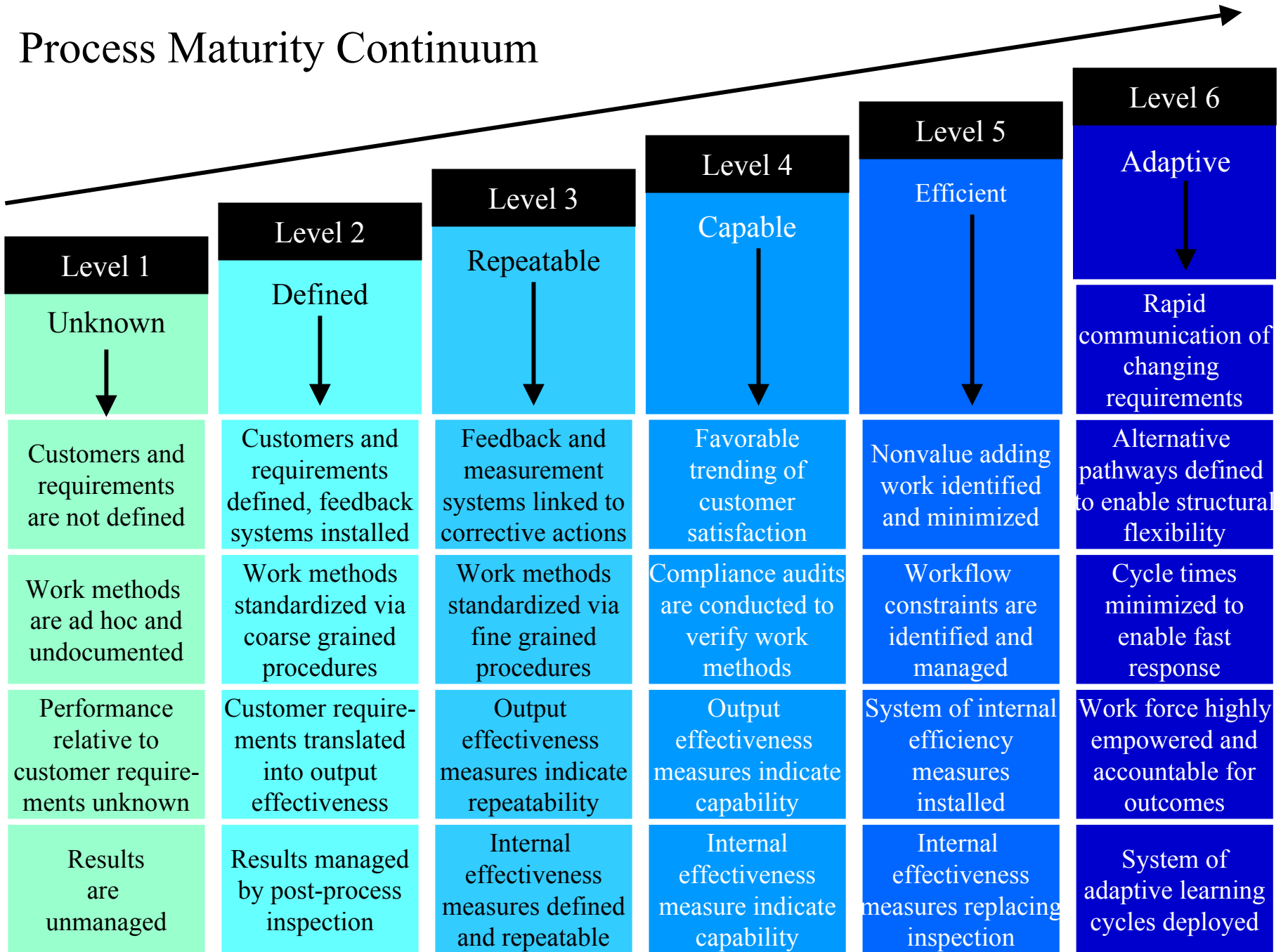
$$C_{pk} = 0.83$$



# Variables of Process Control

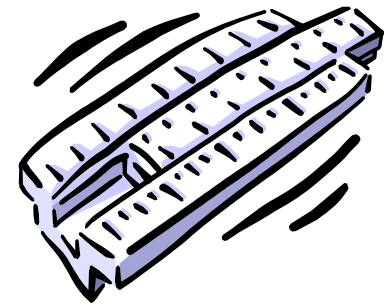
	What's Inspected?	Type of Data	Timing of Inspection	Who Inspects?	Type of Record	Corrective Action	By Whom?
↑ Higher(more desirable) state ↑	Process variable: continuous	Variable	During run: on-line	Device	Electronic control chart	Process improved	Automated equipment
					Paper control chart		
	Process variable: sample		During run: off-line	Process operator	Electronic trend chart	Process adjusted	
					Paper trend chart		
	Product sample	Attribute	After lot is complete	Inspector	Electronic list	Lot Sorted	Operator
					Paper list		
	100% of product		After lot is complete	Inspector	Paper list	Sample repaired or discarded	Inspector or mechanic
					None		

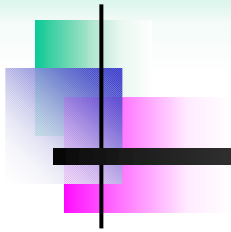
# Process Maturity Continuum



# Measurement & The Closed Loop

- Feedback is essential to determine the effectiveness of the process.
- Measurement must be meaningful.
- Measurements must be analyzed and acted on.
- Measurement & analysis must also be defined and controlled



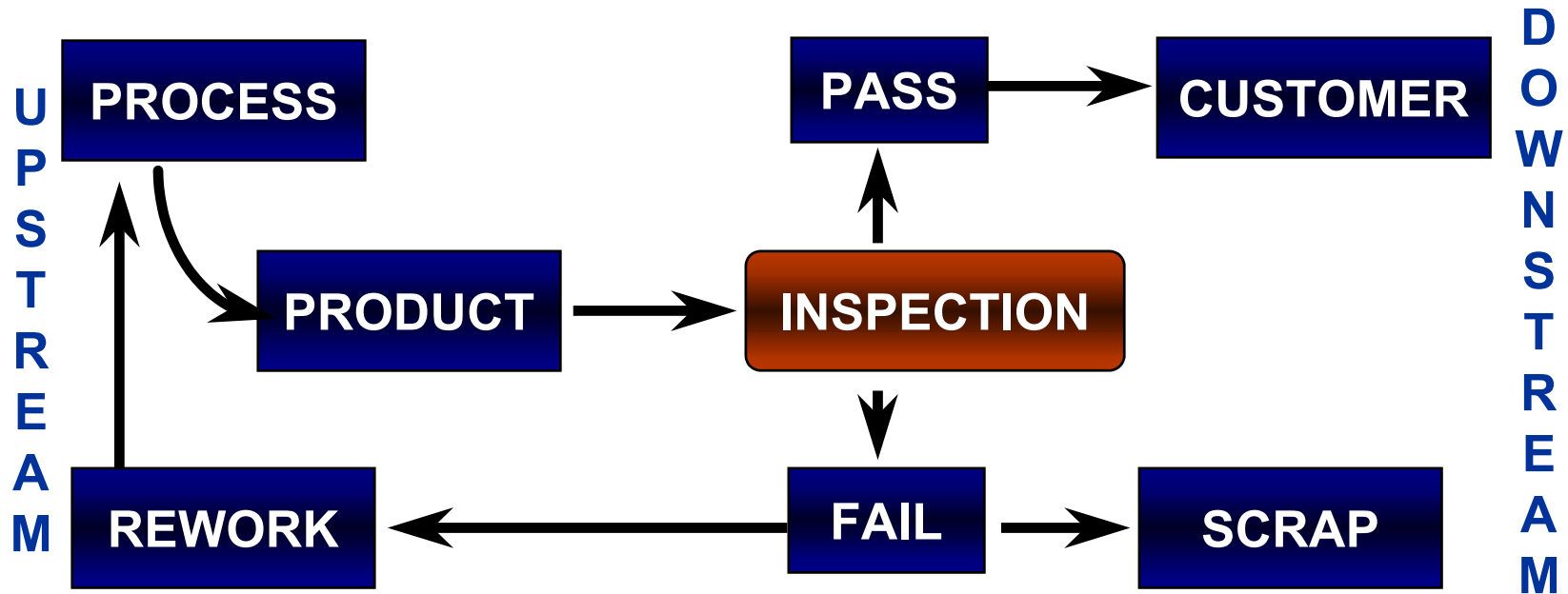


*“There is nothing more inefficient than doing **efficiently** that which should not be done at all.”*

Peter Drucker



# The Current Process



- 
- INCREASED COST
  - LACK OF PRIDE
  - BURNOUT
  - DELAY
- 

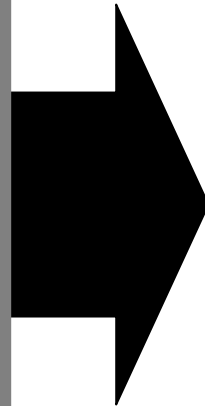
**94% of defects are caused by a common cause (the system)**  
**6% of defects are caused by special causes (people or events)**

From *“Out Of The Crisis”* by W.E. Deming

# “We need to Change our Thinking”

## OLD THINKING

- Work on Results
- Short-Term
- Authoritarian
- Status Quo
- Fear
- Conformity to Specifications
- Individuals Caused Defects



## NEW THINKING

- Work on Processes
- Long-Term
- Participative
- Continuous Improvement
- Open Atmosphere
- Customer Defined
- Process Caused Defects

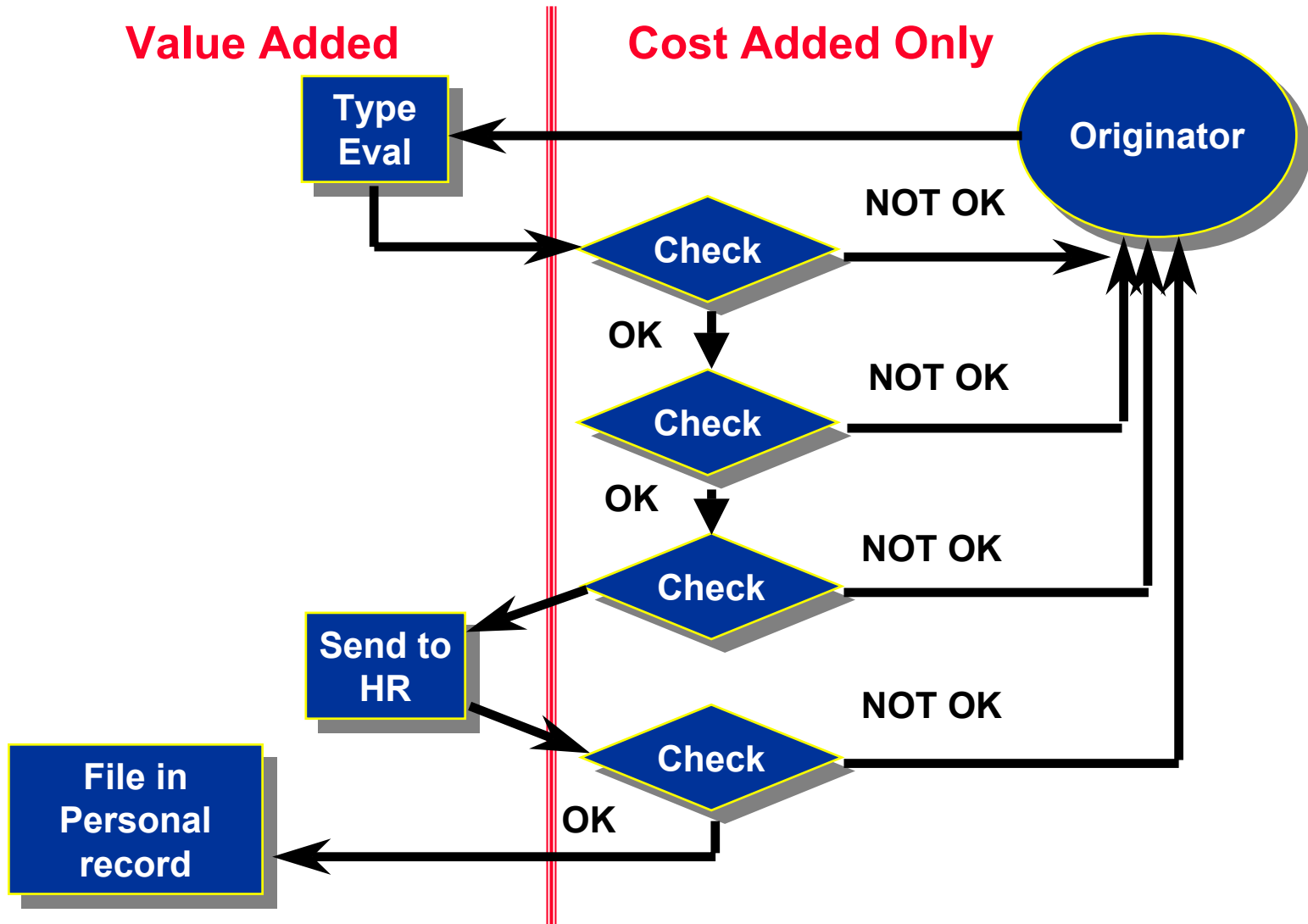
# Process flow charts are used to ...



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- Understand a system or process
- Verify or clarify work processes
- Identify customers/supplier relationships
- Identify value-added work
- Identify potential problems or opportunities for improvement
- Eliminate redundant steps

# Value / Cost Added





# “The Questioning Technique”

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Analyze the process in its entirety, then ask the following questions about each task or step:

## **WHAT:**

Why is it done at all? / Why is it necessary? / Why not eliminate it?

## **WHERE:**

Why is it done there? / Why not change the place? / Why not change the sequence? / Why not combine?

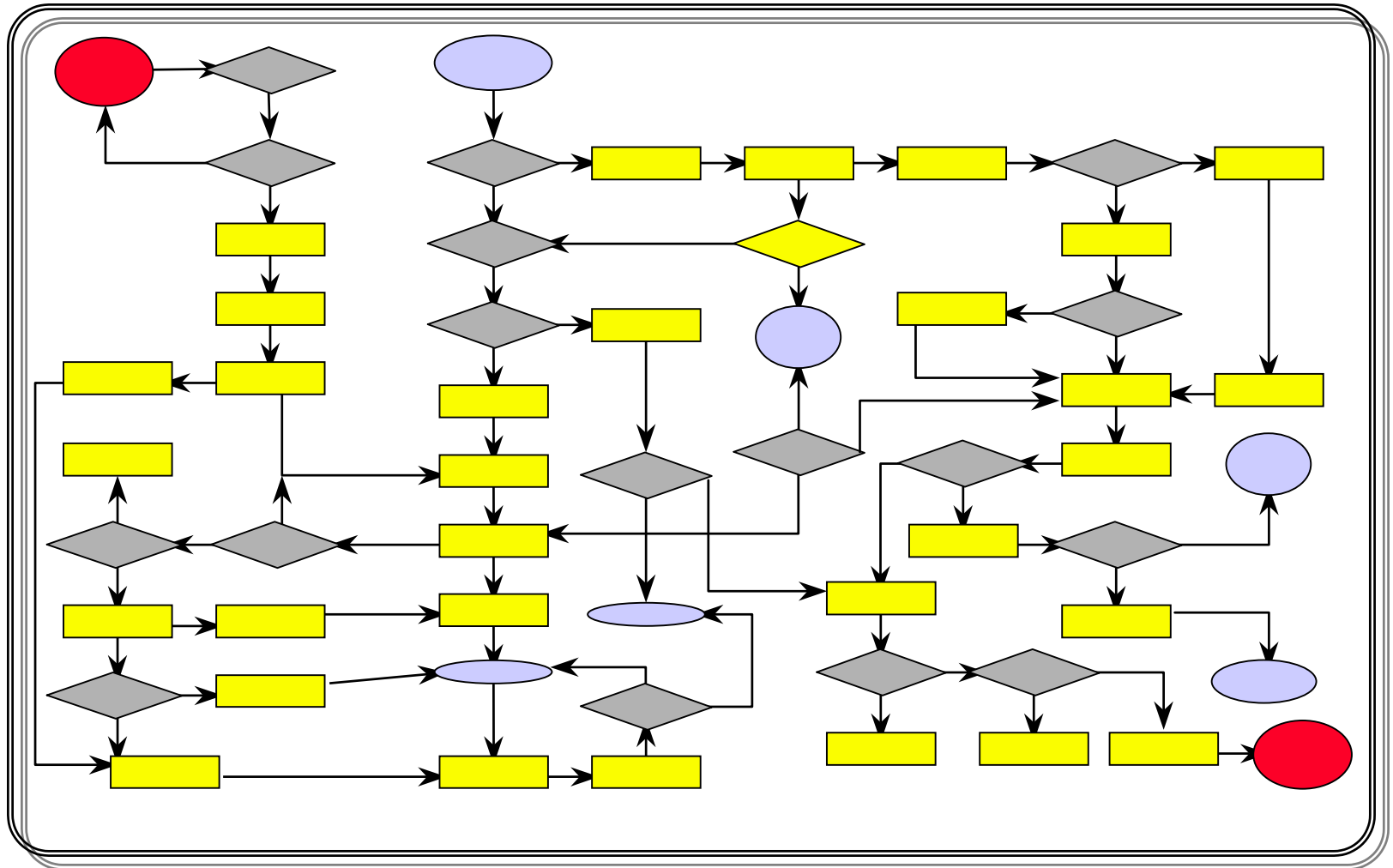
## **WHO:**

Why does the person do it? / Why not change the person? / Why not change the sequence? / Why not combine?

## **HOW:**

Why is it done this way? / Why not do it a different way? / Why not improve it? / Why not make it easier?

# “Ordering Office Supplies” Flowchart





# W. Edwards Deming

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“If I had to reduce my message to management to just a few words, I’d say it all had to do with understanding and reducing variation.”



# Variation: Basic Concepts

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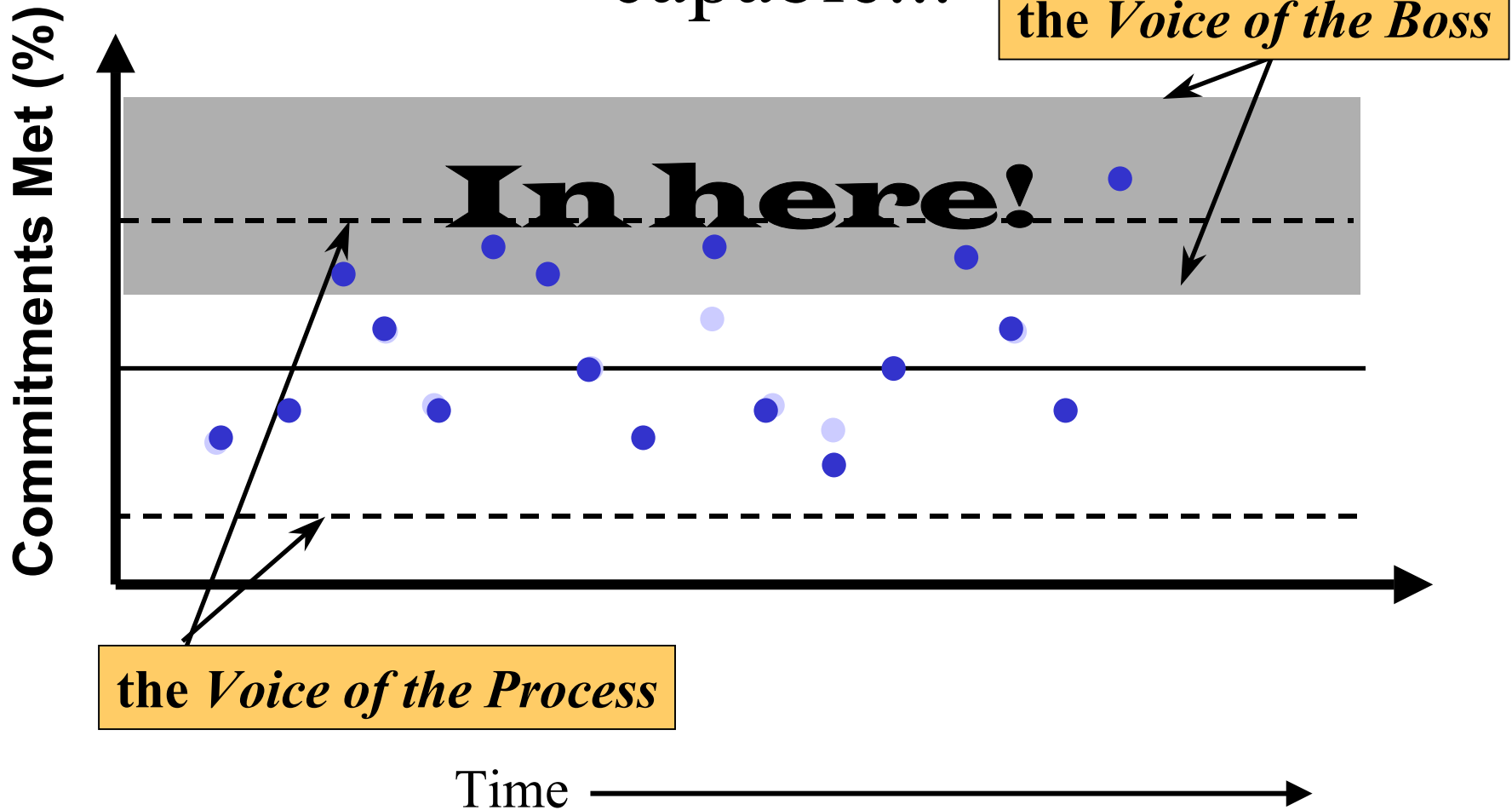
- Variation is inherent in all processes
- Individual fluctuations are random in nature
- Stable processes fluctuate within predictable boundaries
- Unstable processes do not fluctuate randomly
- There are two kinds of variation:
  - common causes
  - special causes

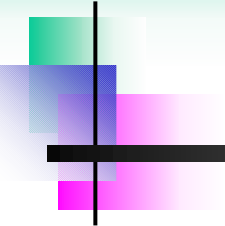


# What a Traditional Manager might do...



A process approach will recognize that the present process may not be capable...

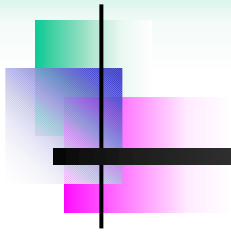




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*“Unless you change the process, why would you expect the results to change?”*





# QUESTIONS



# SYSTEMS Quality Consulting

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Presentation by Roger Olson

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