

# **Summary of 21OCT19**

# Chapter 5 : Cost Management

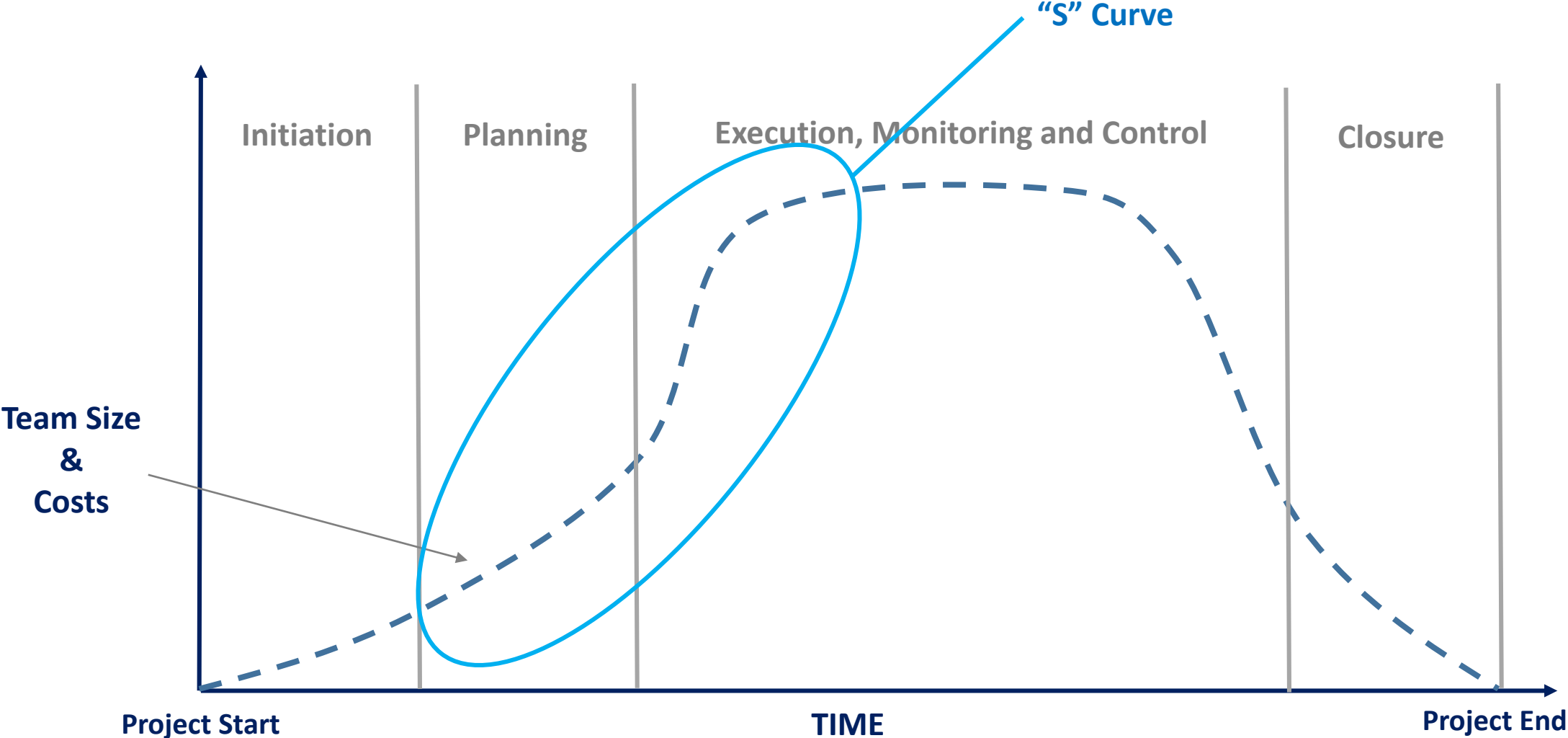
- **Cost baseline = total cost estimated of the project**

- ➔ Any change in the baseline is managed through a formal change procedure

- ➔ Basis of comparison versus actuals.

Project cost performance will be monitored and controlled in the **Execution Phase** against the cost baseline.

# Chapter 5 : Cost Management

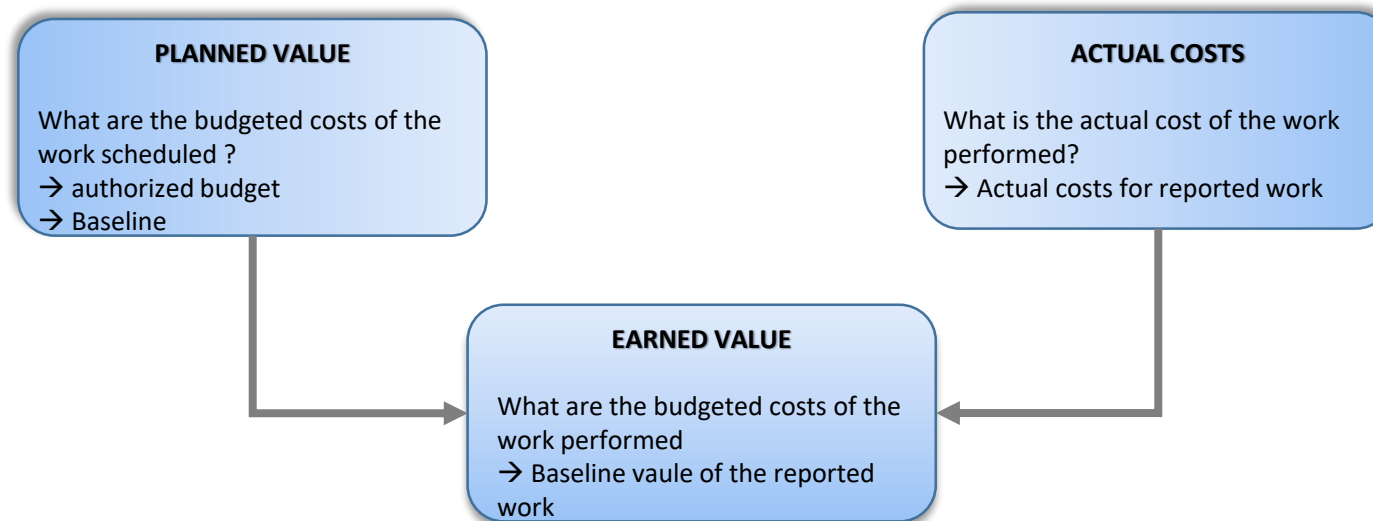


# Chapter 5 : Cost Management

- **Earned Value Management**

- Earned Value Management has **three basic elements**:

- **Planned Value (PV)** : Planned Value is the scheduled cost of work planned in a given time. Planned Value is also known as Budgeted Cost of Work Scheduled (BCWS).
    - **Earned Value (EV)** : Earned Value is the amount of money earned from completed work in a given time. Earned Value is also known as Budgeted Cost of Work Performed (BCWP).
    - **Actual Cost (AC)** : Actual Cost is the actual amount of money spent to date. Actual Cost is also known as Actual Cost of Work Performed (ACWP).



# Chapter 5 : Cost Management

- Earned Value Management :

	EVM Formula	Good	Bad
Schedule Variance	$SV = EV - PV$	+ Variance(ahead of Schedule)	- Variance (behind schedule)
Cost Variance	$CV = EV - AC$	+ Variance (under budget)	- Variance (over budget)
Schedule Performance Index	$SPI = EV / PV$	>1 (ahead of Schedule)	<1 (behind schedule)
Cost Performance Index	$CPI = EV / AC$	> 1 (under budget)	< 1 (over budget)

# Chapter 6 : Project Quality Management

## Project Quality Concepts

- **Customers Satisfaction**

Each company, each organization, ... depend on Customers so :

- Need to ***understand customers requirements*** by evaluating and defining customers expectations
- ***Meet customers requirements*** by managing their expectations
- Try ***to exceed customers expectations***

- **Prevention versus Inspection** : Preventing errors in a process is typically less expensive than fixing / correcting them when they are found by inspection or by usage.

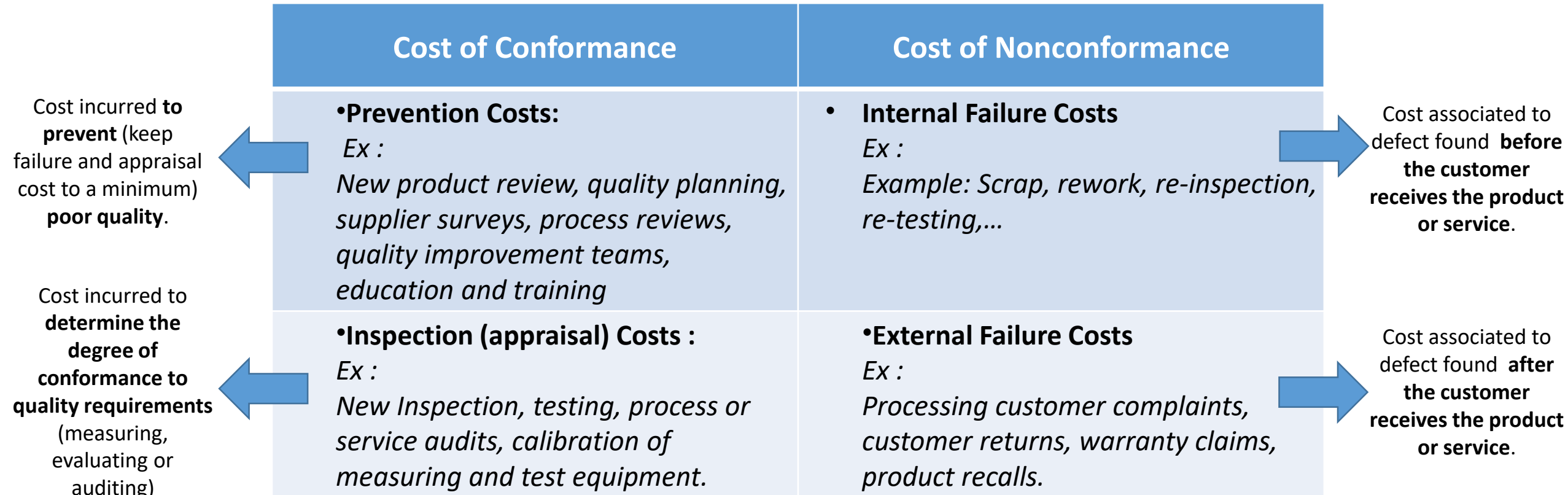
- The **Cost of Quality (COQ)** includes money spent during the project to avoid failures and money spent during and after the project because of failures. These are known as the **Cost of Conformance** and the **Cost of Nonconformance**

→ Preventing errors is typically less expensive than fixing them by inspection

# Chapter 6 : Project Quality Management

## Project Quality Concepts

### ▪ Cost of Quality (COQ)



# Project Quality Concepts

## ▪ Continuous Improvement

Continuous improvement is a concept that exists in all of the major quality management approaches such as **PDCA Cycle or simply Deming Cycle , Six Sigma & Lean Six Sigma, Total Quality Management (TQM) but also CMMI.**

In fact, it is a key aspect of the last concept, *prevention over inspection*.

- **W.Edwards Deming** : introducing **statistical process control techniques** with **PDCA Cycle or simply Deming Cycle**

**The ACT stage** focuses on implementing the process within the organization or with its customers and suppliers

**PLAN stage** involves analyzing the current situation, gathering data, identifying the real causes and define corrective actions

The four steps Plan, Do, Check and Action should be repeated over time to ensure continuous learning and improvements in a function, product or process.

**The CHECK stage** requires determining whether the trial process is working as intended, whether any revisions are needed, or whether it should be scrapped.

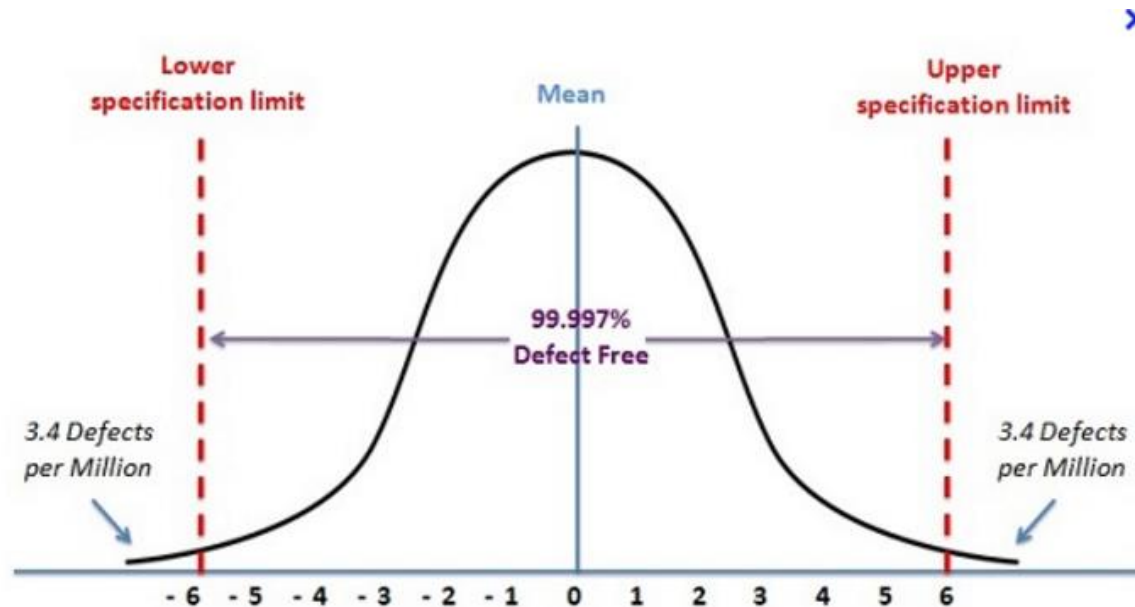
**DO stage** involves testing hypotheses experimentally establishing a pilot process, or trying it out with small number of customers



# Project Quality Concepts

## Continuous Improvement : Six Sigma :

- Six Sigma is a quality Management model that incorporates a strategy using statistical tools
- **Objective** : reduce process output variation so this will result in **no more than 3.4 defect parts per million**
- **Six Sigma** represents six standard deviations from mother mean to the upper and lower specification limits



# Project Quality Concepts

- **Continuous Improvement :**

- **Total Quality Management :** TQM, from **Dr Armand Feigenbaum** , also known as total productive maintenance, describes a management approach to long-term success through customer satisfaction. In a TQM effort, all members of an organization participate in improving processes, products, services, and the culture in which they work
- **The Capability Maturity Model Integration (CMMI®)** is a capability improvement model that can be adapted to solve *any* performance issue at *any* level of the organization in *any* industry.
  - CMMI uses 5 levels to describe the maturity of the organization
  - CMMI describes the key elements of an effective Software process

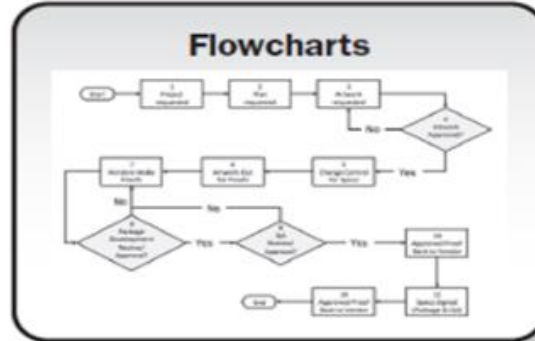
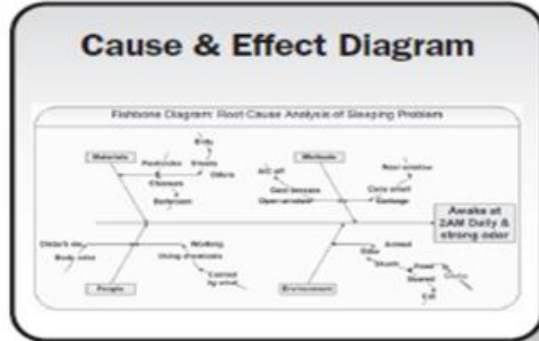
# Project Quality Management

- Main Quality Movements / Major Contributors :

Contributors	Principles
W.E Deming (1900-1993)	<ul style="list-style-type: none"><li>▪ PDCA Cycle</li><li>▪ Rule of 85 : 85% of the cost of quality is the responsibility of management</li></ul>
Joseph M.Juran (1904-2008)	<ul style="list-style-type: none"><li>▪ “Quality is free”</li><li>▪ Pareto Principle (<i>80/20 Rule</i>) : 80% of a problem is caused by 20% of the causes</li></ul>
Philip B.Crosby (1926-2001)	<ul style="list-style-type: none"><li>▪ “Doing It Right the First Time”</li><li>▪ Crosby's Zero Defects</li></ul>
Dr Genichi Taguchi (1924-2012)	<ul style="list-style-type: none"><li>▪ Statistical methods</li></ul>
Dr Kaoru Ishikawa (1915-1989)	<ul style="list-style-type: none"><li>▪ Cause and effect diagram (also called the "Ishikawa" or "fishbone" diagram)</li></ul>
Dr Armand Feigenbaum (1922-2014)	<ul style="list-style-type: none"><li>▪ Total Quality Management (TQM).</li></ul>

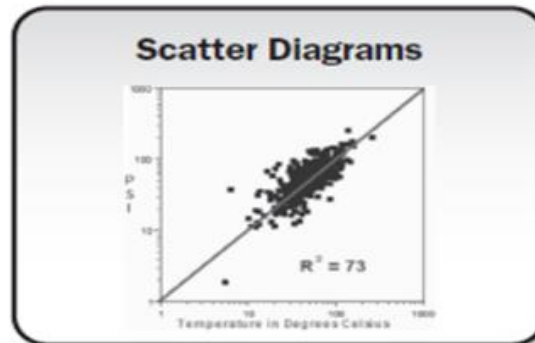
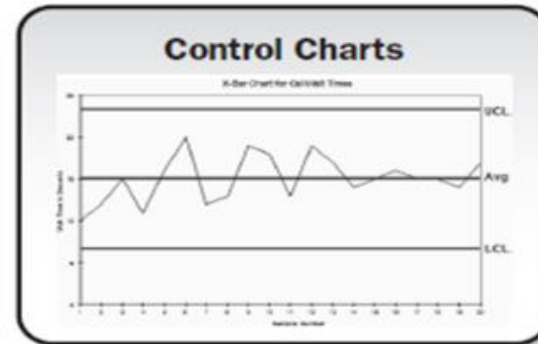
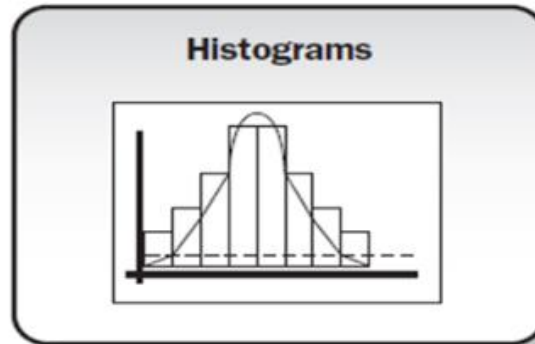
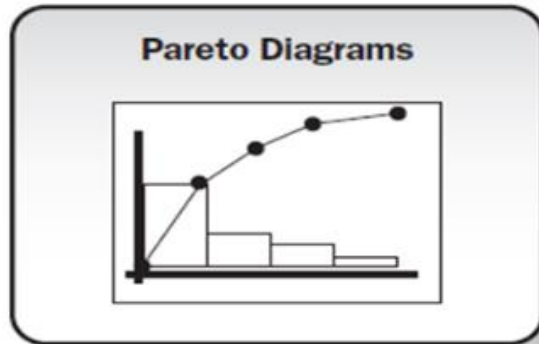
# Project Quality Management

- **Seven Basic Quality Tools** : also call in the industry as 7QC tools.



### Checksheets

<i>Category</i>	<i>Strokes</i>	<i>Frequency</i>
Attribute 1		
Attribute 2		
Attribute ..		
Attribute n		



+

## 8D - Eight Disciplines (8Ds) Problem Solving

# EXAM PREPARATION

1. A project's contingency reserves are determined in which project phase:

A. Initiation

B. Planning

C. Execution

D. None of the above

2. The Cost of a project is usually displayed in the form of:

A. An S-curve

B. An inverted S-curve.

C. Pie-chart

D. A Z curve

3. Which of the following is an important tool to identify the root causes or contributors to a problem, error, or defect?

A. Fishbone diagrams

B. Control charts

C. Histograms

D. Pareto Diagrams

4. As project manager, you would like to show the relationship between two variables to help your project team understand the quality impact better. Which tool should you use?

A. Scatter Diagram

B. Control Chart

C. Fishbone Diagram

D. Pareto Chart

5. The Plan-Do-Check-Act (PDCA) cycle as the basis for quality improvement is usually attributed to:

- A. Deming
- B. Crosby
- C. Juran
- D. Pareto

6. What is a control chart?

- A. A type of RACI chart
- B. A chart that shows the root cause of a problem
- C. A type of fishbone diagram
- D. A chart that shows the stability of a process

7. There is a serious defect in the finished product of a project that was completed a few months ago, resulting in a recall campaign to recall the defective products. What would be the best classification for these types of costs?

- A. Cost performance index
- B. Cost variance
- C. Cost of conformance
- D. Cost of nonconformance

## NEXT ....

- EXAM 2 : Monday 18 November - **QCM sur les chapitres 2 à 6**
  - **Comment : Chapter 7 : not part of the EXAM2**
- Laptop with MS Project free license