



DEPARTMENT OF MANAGEMENT STUDIES  
**SHRIMATI INDIRA GANDHI COLLEGE**  
TIRUCHIRAPPALLI – 620 002

# **TOTAL QUALITY MANAGEMENT**

## **P16MBA18**

### **Unit – IV : Six sigma**

# Six sigma, 6σ

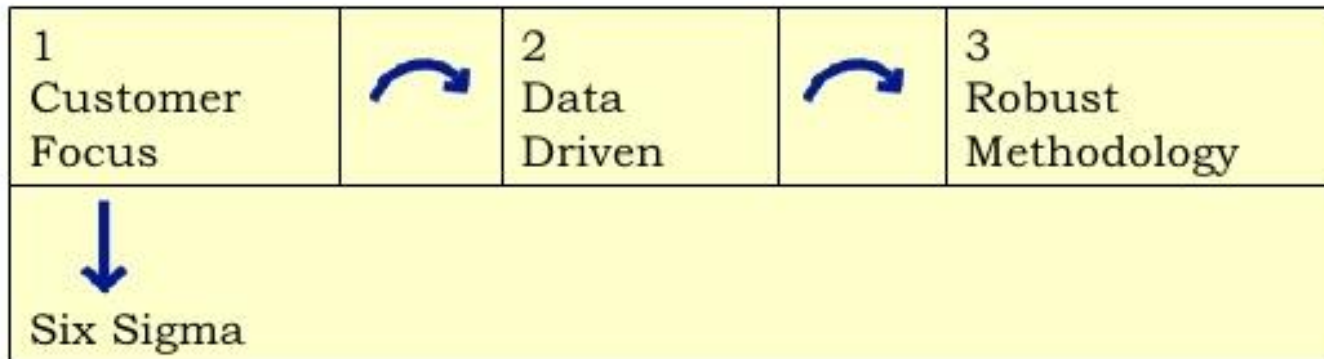
- One of the foremost methodological practices for **improving customer satisfaction** and **improving business processes.**

# Definition – Six Sigma

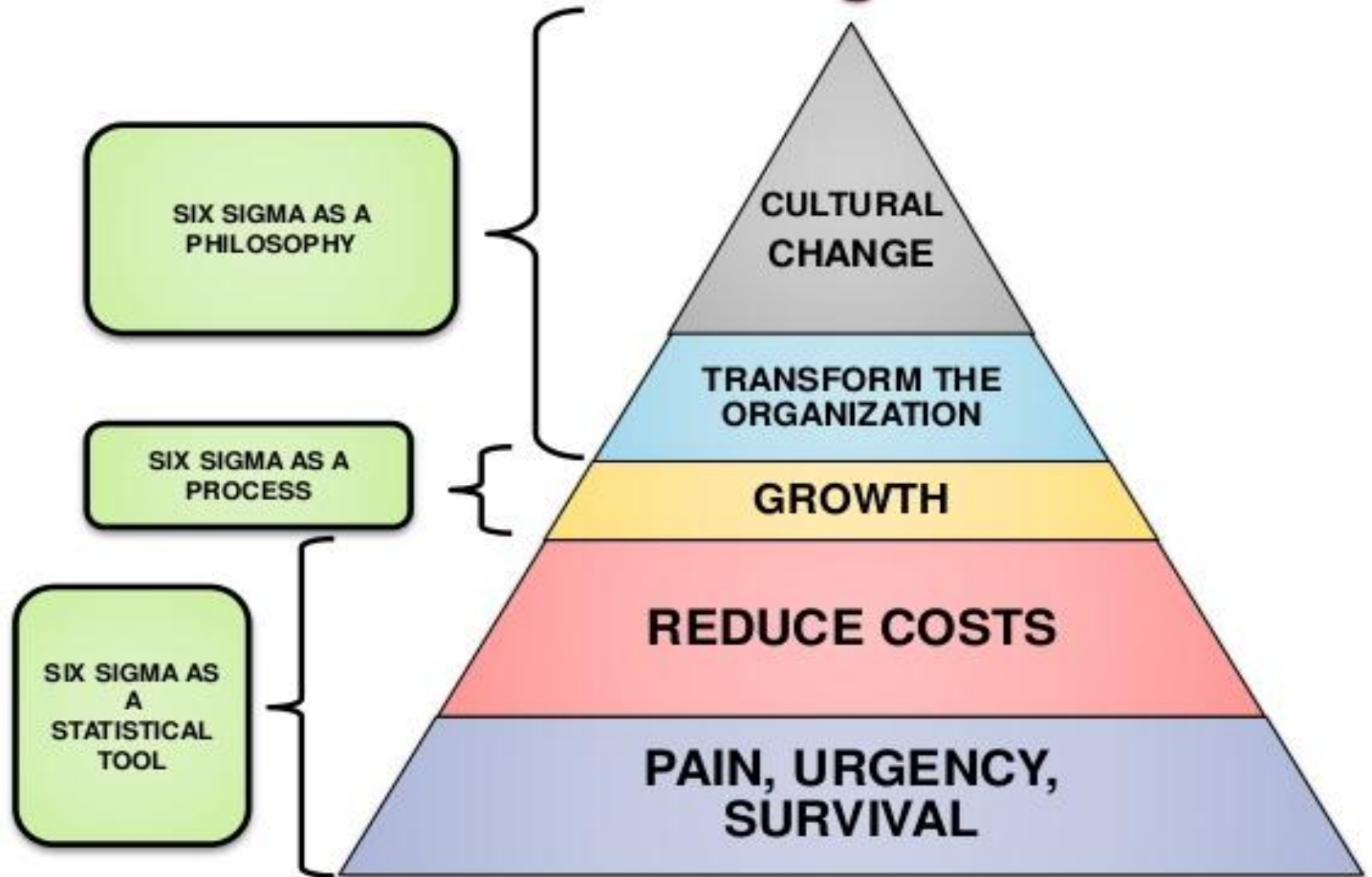
Six Sigma is the measure of quality that strives for near perfection. It is a disciplined, data-driven methodology focused on eliminating defects.

— A Six Sigma defect is defined as anything that falls outside of a customer's specifications. Six Sigma is a reference to a statistical measuring system, equivalent to just 3.4 defects per every million opportunities (Snee, 2003).

## THE THREE FUNDAMENTALS OF SIX SIGMA



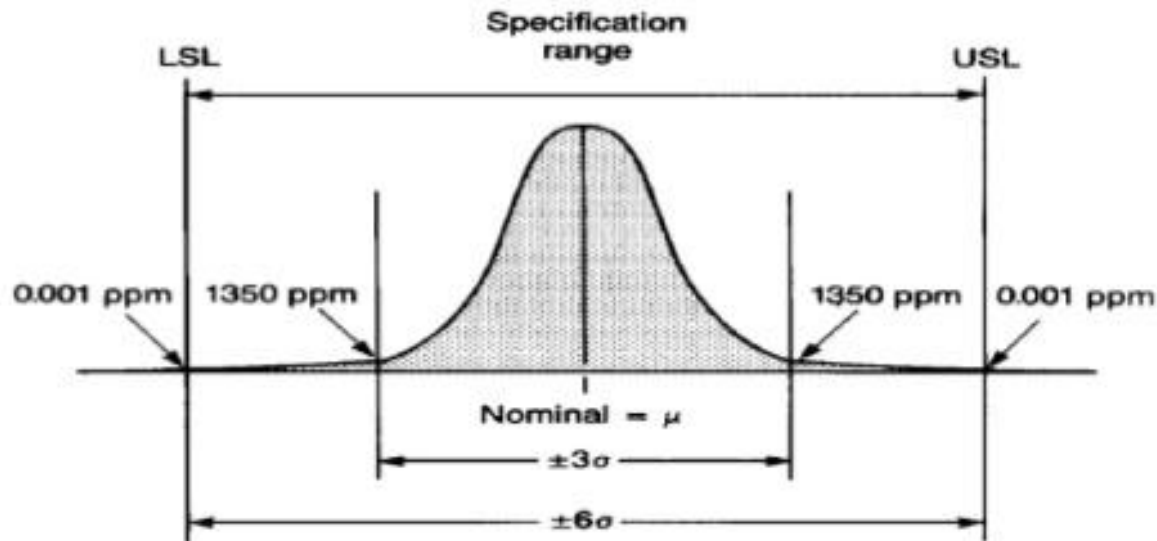
# Overview of Six Sigma





# SIX SIGMA DEFINED

- In a narrow sense...
  - A metric based on Statistical Measure called Standard Deviation
- In a broader, business sense...
  - WORLD CLASS QUALITY providing a BETTER product or service, FASTER, and at a LOWER COST than our competitors.
- VARIATION... "the enemy of the customer satisfaction"



**FIGURE 1.4** Normal distribution curve illustrates the Three Sigma and Six Sigma parametric conformance. (Copyright of Motorola, Inc., used with permission.)

<b>Sigma Level</b>	<b>Defects per Million</b>	<b>Yield</b>
6	3.4	99.99966%
5	230	99.977%
4	6,210	99.38%
3	66,800	93.32%
2	308,000	69.15%
1	690,000	30.85%



# Six sigma – Practical meaning

<b>SIGMA</b>	<b>Defect per million</b>	<b>Defect based on scale</b>	<b>Capability</b>
6 sigma	3.4	Less than 10% of scale	World Class
5 sigma	230	10% to 15% of Scale	World Class
4 sigma	6200	15% to 20% Scale	Industry Average
3 sigma	67000	20% to 30% of Scale	Industry Average
2 sigma	310000	30% to 40% of Scale	Non competitive
1 sigma	700000		Non competitive

Six Sigma performance implies a level of process and product performance of no more than 3.4 defects per million opportunities



WWW.SIXSIGMA-INSTITUTE.ORG



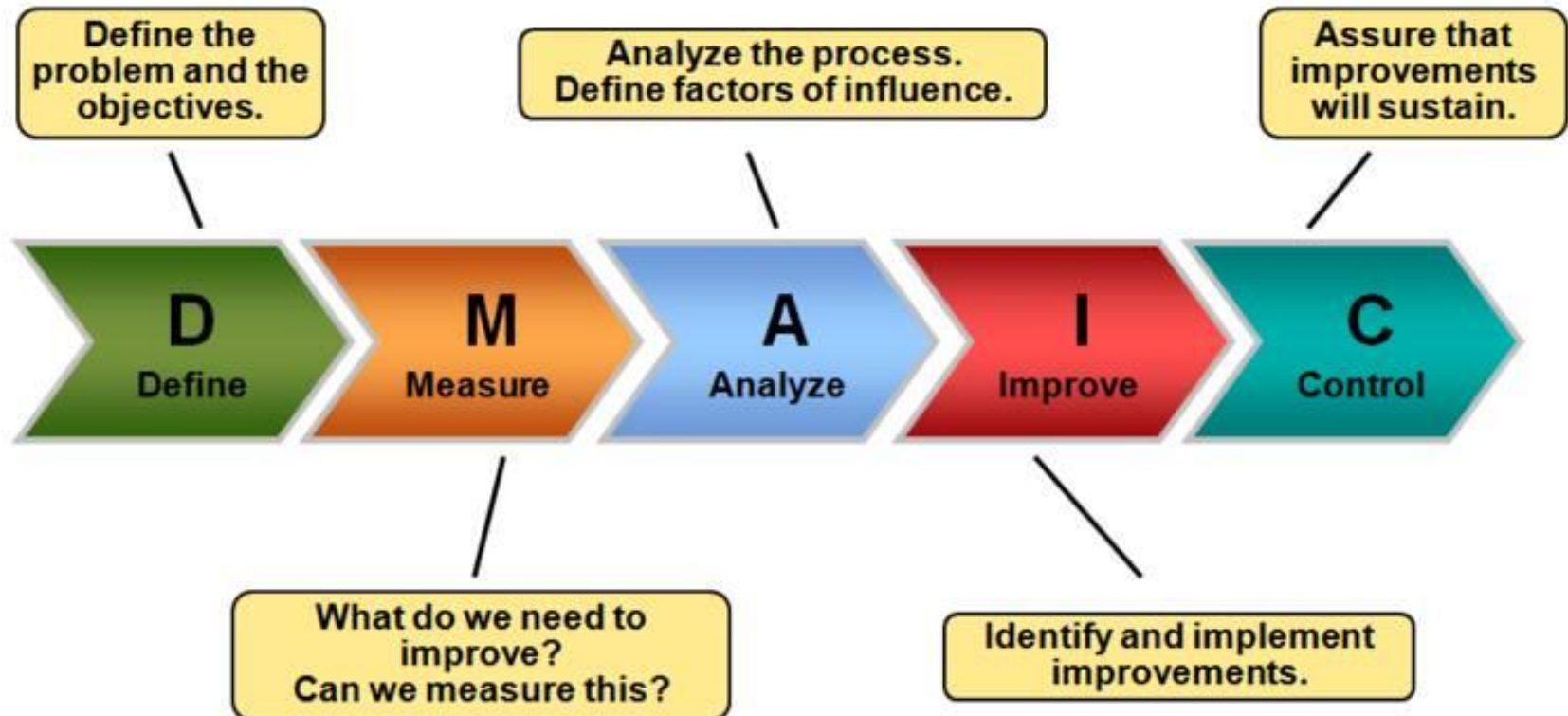


# SIX SIGMA TOP 5 PRINCIPLES



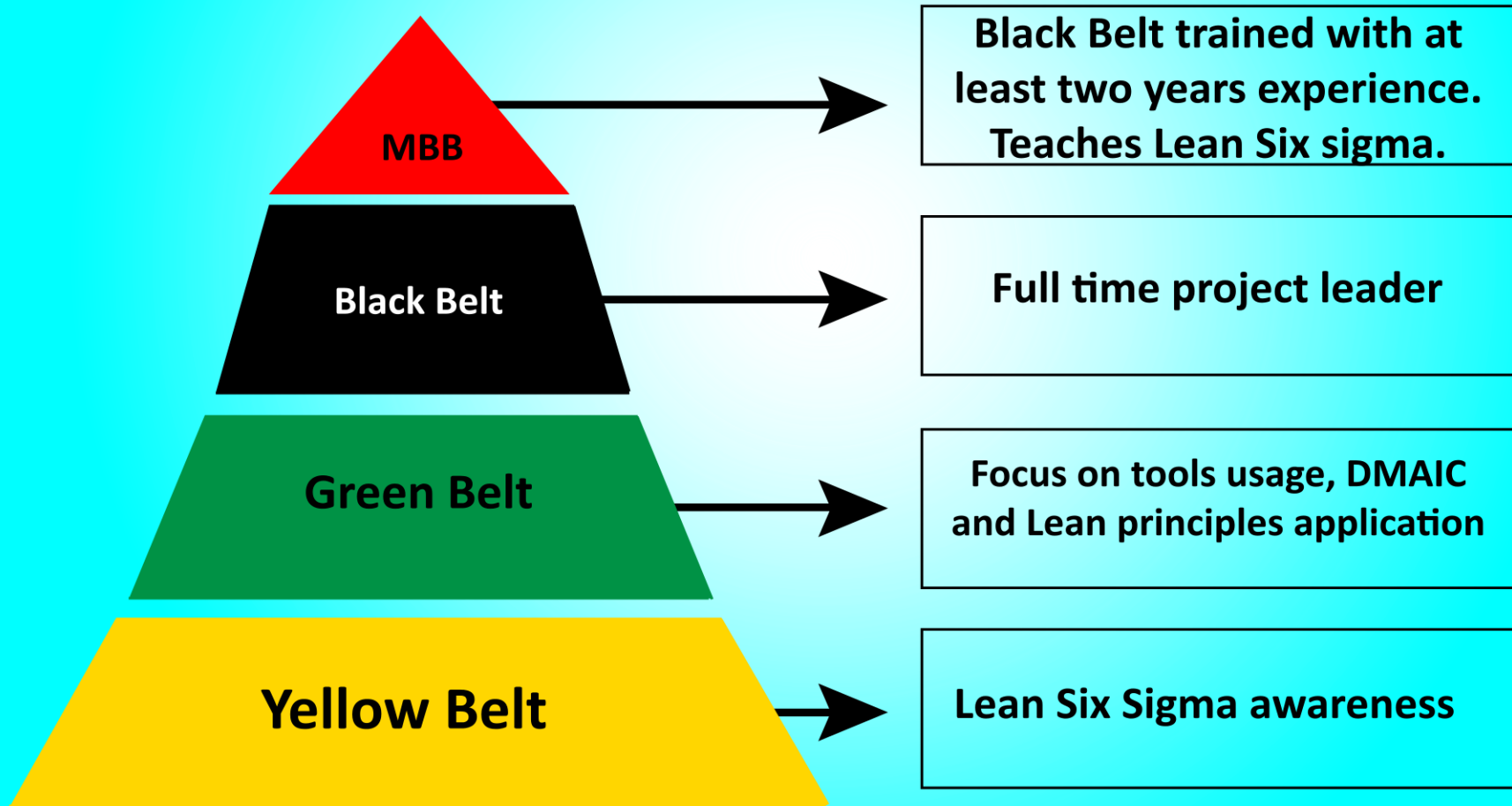


# DMAIC Roadmap





# LEAN SIX SIGMA ORGANIZATION STRUCTURE



# Six Sigma Certification Structure

