

Course Content

Introduction to Lean Six Sigma

- What is Lean Six Sigma?
- Evolution of Lean, Six Sigma and other Quality Management Methodologies
- Why Lean Six Sigma is so effective?

Structure of Lean Six Sigma

What is Quality?

- Cost of Poor Quality (CoPQ)
- Cost, Price, Profit and Loss
- What is Business Excellence

Basics of Lean

- Cash to Cash Cycle
- 7 Wastes of Lean
- Kaizen & 3 M's

DMAIC - Over View

Define

- What is your problem?
- Project Selection – Understanding Business Needs
- Tools : Kano's Priority Model
- External and Internal points of identifying projects Understanding of problem
- Voice of Customer (VoC) – Critical to Quality (CTQ)
- Collection and Analysis of VoC
- Tool : Affinity Analysis
- Yield and Loss Analysis
- Identifying Product Family
- Tool : Product Family Matrix
- Process Maps & SIPOC
- Tool : Process Flow Diagram
- Tool : SIPOC
- Tool : Spaghetti
- Tool : Value Stream Mapping
- Project Charter

Measure

- Basic Statistics
- Descriptive Statistics
- Inferential Statistics
- Understanding Data
- Central Tendency
- Dispersion
- Probability Distribution
- Types of Data
- How to measure your problem?
- What data do you need to collect?
- Operational Definitions
- Population & Sampling
- Data Collection

- Data Screening
- Trend Analysis
- Variation & Consequences
- Do data represent stable process?
- Tool : Control Chart
- Is the data normal?
- Tool : Normality test
- What is your process capability?
- DPMO method
- Cpk method
- Standard Normal distribution
- Calculation of Process Cycle Efficiency

Analyse

- Why your process capability is poor?
- Data Analysis
- Tool : Histogram
- Tool : Pareto
- Tool : Box Plot
- Brainstorming for Possible Causes
- Tool : Fish-bone Analysis
- Root Cause Analysis
- Tool : Why-Why Analysis
- Prioritising potential root causes
- Validation of root causes
- Tool : Regression & Correlation
- Tool : Hypothesis Testing
- Tool : t – Tests
- Bottleneck Identification
- Value & Non-value analysis
- Analysis of 7 Wastes

Improve

- Generate Solutions
- Tool : Critical Questioning Technique
- Proof of solutions
- Various Lean Six Sigma Solutions
- Kaizen
- Set up time reduction
- Mistake Proofing
- Introduction to TRIZ
- Action Plan
- Verification & Scale up

Control

- How to sustain gains?
- Control plan
- Control charts
- Documentation
- ☐ Continuous Improvement