

Lean Six Sigma Black Belt Training & Certification Program

Program Participants:

Department Managers, Project Leaders, Senior officers, Black Belt candidates and anyone who desires an understanding of Lean Six Sigma Principles and skills.

Program Overview:

Lean Six Sigma training combines lectures with simulation exercises to give participants the opportunity to follow a structured improvement methodology. Using the DMAIC model, it teaches participants how to apply Lean principles and tools in conjunction with the Six Sigma rigor and methodology to achieve rapid and significant improvements with greater speed and reduced variation. Participants will also learn how to play their role and effectively manage, support and motivate their teams and how to apply project management skills to achieve the desired goals.

The approach to developing Lean Six Sigma experts is based on an Learn-Apply approach. This approach combines classroom training with project implementation and application. The journey to becoming a Lean Six Sigma expert will span over 4-6 months, alternating between spending one week in training, and three weeks back on the job applying the tools and techniques you learned to complete your project.

Upon completion, the participants will be able to understand

- Simultaneously improve both quality and speed by combining Lean with Six Sigma.
- Understand the Lean Six Sigma methodology and improvement processes.
- Define, scope and work on Lean Six Sigma Projects.
- Construct a Value Stream Map and apply the map to identify improvement opportunity.
- Learn to recognize waste.
- Apply Lean tools to analyze process flow and delay times and focus on the separation of "value-added" from "non-value-added" and work with tools to eliminate the root causes of non-value-added activities.
- Incorporate a comprehensive set of statistical analysis tools and lean tools to problem solving.
- Implement quick improvements using a structured Kaizen event.
- Learn to mistake proof a process to reduce rework.
- Apply SPC and visual process management to monitor the progress.
- Use Minitab to enhance analysis for process improvement projects.

Program Duration: 16 days (4 days / week; 1 week / month spread over 4 months).

The DMAIC model is a systematic method for analyzing and improving business processes. It consists of five phases.

- ❖ Define
- ❖ Measure
- ❖ Analyze
- ❖ Improve
- ❖ Control



Training Contents

Define Opportunity - What is important?

- Identify business opportunity
- Define customer requirements.
- Develop Team charter
- Project Management
- Document and analyze processes.
- Value stream Mapping
- Quick Improvement Identification
- Lean Tools for quick improvements.

Measure Performance - How are we doing?

- Determine what to measure
- Manage measurement
- Evaluate variation and lead time
- Evaluate measurement system
- Determine process performance (sigma level / lean metrics).
- Sampling concepts.

Analyze Opportunity - What is wrong?

- Why there is a problem?
- Identify process constraints and bottlenecks.
- Identify and prioritize potential root causes.
- Verify critical root causes using analytical tools
- Assess and reduce complexity.

Improve Performance - What needs to be done?

- Identify solutions
- Develop potential solutions by Quality tools.
- Develop potential solutions by Lean tools.
- Develop potential solutions by idea generation.
- Evaluate and select solutions.
- Develop "to-be" process map.
- Develop and execute pilot process.

Control Performance - How do we guarantee performance?

- Plan and implement full scale solution
- Statistical Process Control
- Visual Management
- Process capability analysis
- Project integration, closure and recognition.

Next Step

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