Lean Six Sigma Black Belt

Duration: 10 Days Course Code: LSSBLB Delivery Method: Virtual Learning

Overview:

The Lean Six Sigma Black Belt training and certification program will equip participants with the technical competencies, team leadership skills and change management skills to lead Lean Six Sigma projects using the Lean Principles and DMAIC (Define Measure Analyze Improve Control) methodology. The 10-day program will cover the most contemporary process improvement practices adopted by leading organizations and proponents of Lean Sigma Transformation in manufacturing, service, healthcare, financial, public sector as well as many other industries.

Business success in any organisation requires vision, products and services that add value, processes that are efficient, people who are competent and a culture that supports the behaviours of improvement and development. This course will address all these aspects with a significant focus on the cultural change and the role of the Lean Sigma Black Belt in the facilitation, change management and application of the tools to change a culture.

The role of the Lean Six Sigma Black Belt is a business improvement professional that is able to support the Lean and Six Sigma implementation journey in organizations, including assisting systems and tools implementation. They possess the ability to mentor multiple teams, monitor performance of all activities and engage leadership support to deliver genuine business improvements.

This programme will run over 5 months and will focus heavily on the application of the tools rather than their academic understanding.

The course covers the phases of a typical Lean Transformation utilising Lean Principles and Six Sigma: Define, Measure, Analyze, Improve and Control.

The methodology follows a structured sequence of problem solving techniques and cultural change management to arrive at a solution. Statistics aid in the decision-making process and help to validate the success of changes. Cultural facilitation embeds that change.

Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

This Lean Six Sigma Black Belt Training Course is recommended for all those in an organisation who will lead medium or large improvements and who will act as coaches or mentors to others involved in the improvement programme.

It is suitable for managers, internal consultants, change agents, project managers, team leaders, business improvement leaders or facilitators.

Prerequisites:

It is a pre-requisite that participants possess a Lean Six Sigma Green Belt or equivalent and have identified a significant improvement project that they will implement over the duration of the course.

Content:

history, foundations, integration of Lean and Six Sigma, business processes and systems and LSS applications

• Lean Transformation Roadmap

• Lean Assessment

• Leadership

Responsibilities, roadblocks, change management, projects, Six Sigma roles and responsibilities

• Organizational Process Management and Measures

Impact on stakeholders, Critical to x (CTx) requirements, Benchmarking, Business performance measures, Financial measures

• Project Selection

NPV (Net Present Value) Analysis

• Value Stream Mapping

• Management of change

Lean Six Sigma Teams

• Hoshin Kanri strategy deployment

Define Phase

• Voice of the customer

• Project charter

Problem statement

Basic terms

Central limit theorem

Descriptive statistics

Graphical methods

Valid statistical conclusions

• Probability

Basic concepts and Distributions

• Process capability

Process capability indices

Process performance indices

Short-term and long-term capability

Process capability for non-normal data

Process capability for attributes data

Process capability studies and Process performance vs. specification

Analyse Phase

• Data Analysis Overview

• Pareto Analysis

• Gap analysis

• Root cause analysis

• Waste analysis

• Run Charts

• Autonomous Maintenance / TPM

• Quick Changeover / SMED

• Line Balancing/Operator Balance Charts

• Continuous Flow Layouts

• Kanban/Pull Systems

• Kaizen Events

• Pilot Testing

• Full-Scale Implementation

• Creativity and Innovation

• Eliminate, Combine, Redesign, Simplify (ECRS)

• Design of experiments (DOE)

• Waste elimination

• Cycle-time reduction

• Kaizen and Kaizen Blitz

• Theory of constraints (TOC)

• TRIZ

• Risk analysis and mitigation

Control Phase

• Control Plan Elements

• Statistical Process Control

• Statistical process control

Project scope

Goals and objectives

Project performance measures

• Project tracking

• Project Stakeholder Analysis

• Measurable Customer Requirements

• Requirements Statements

• Process Mapping

• SIPOC

Measure Phase

• Process characteristics

Input and output variables

Process flow metrics

Process analysis tools

• Data collection

Types of data

Measurement scales

Sampling methods

Collecting data

• Measurement systems

Measurement methods

Measurement systems analysis

• Histogram/Frequency Plot

• Cause and Effect Analysis

• Scatter Plot or Correlation Diagram

• Multi-Variant Analysis

Correlation coefficient

Regression

Multivariate tools

Multi-vari studies

Attributes data analysis

• Inferential Statistics Primer

• Hypothesis testing

Terminology

Statistical vs. practical

Significance

Sample size

• Design of Experiments Overview

• Failure mode and effects analysis (FMEA)

Improve Phase

• Generating Creative Solutions- Brainstorming

• Analysing and Selecting Solutions- Decision Matrix

• 5S

Objectives,

Selection of variables

Rational sub-grouping

Control chart selection

Control chart analysis

• Other control tools

Total productive maintenance

Visual factory

• Maintain controls

Measurement system re-analysis

Control plan

• Sustain improvements

- Lessons learned
- Training plan deployment

Documentation

Design for Six Sigma (DFSS) Frameworks and Methodologies

• Common DFSS methodologies

• Customer Expectations

House of Quality

Critical to Quality Deployment

Critical Parameter Management

Design for X (DFX)

- • Robust design and process (Special design tools)

• Basic statistics

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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