HIGH IMPACT & EFFECTIVE APPLICATION OF MANUFACTURING STATISTICS
(PUBLIC / IN-HOUSE TRAINING PROGRAMME)

SBL Scheme
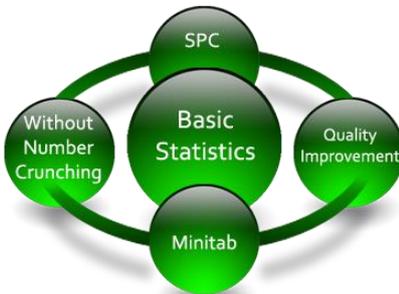
Introduction

There is an increasing awareness that problem solving skill among employees is an important and essential critical skill for organization success and to remain viable in today's very competitive business environment. **Employee empowerment and involvement** has made a breakthrough in employees' thinking to take responsibility for the processes that are under their control. However employees' today are plagued with increasing demands for attaining higher performance goals and sustaining performance that demands **employees ability** to **solve problems** and apply discretion where they do not normally do so until very recently.

The quality revolution has brought about increasing customers' demands and higher expectation to lower cost of production to maintain profitability. These twins conflicting objectives mean that the workforce including management personnel must constantly collaborate and deploy intelligence throughout the organization. This is necessitated by the need to co-opt the whole workforce in this collaborate process to deal with problematic issues that are being faced by all organizations with incessant rapidity. The workforces' improved capability to solve problem especially with **Fact and Data Driven Approach** become a necessary requirements in any continuous improvement journey embarked by any organizations. **Basic Manufacturing Statistics (BMS)** become an important knowledge and skills that every employee must master in order to have a proper and meaningful analysis to extract useful information to assist in decision making and problem solving processes.

Objective

Also available as in-house programme.

After attending the course, participants should be able to :-

✓ Organized method of approaching a problem and the thinking habit that is essential to ensure a successful problem solving in the organization;
✓ Recognize the type of basic manufacturing statistics that available for usage;
✓ Promote Fact and Data Driven Management concept.

COURSE CONTENTS

Day 1
- Descriptive Statistics
  - Visualization and summarization of data
    - o Histogram/Frequency Distribution
    - o Measure of Central Tendency
      - ▪ Mean/Median/Mode
    - o Measure of Dispersion/Spread
      - ▪ Range
      - ▪ Standard Deviation
    - o Measure of Distribution Shape
      - ▪ Skewness
      - ▪ Kurtosis
- Probability Concepts
  - o Addition and Multiplication Rules
  - o Permutation and Combination
  - o Attribute and Continuous Probability Distributions
  - o Addition and Subtraction of Probability Distribution
- Binomial Distribution
  - o Its formulae
  - o Its Application
- Poisson Distribution
  - o Its formulae
  - o Its Application
- Hypergeometry Distribution
  - o Its formulae
  - o Its Application
- Normal Distribution
  - o Its formulae
  - o Its Application

Day 2
- Inference Statistics
  - o Concepts
  - o Its Application
- Confidence Interval
  - o Concepts
  - o Its Application
- Hypothesis Tests
  - o Concepts
  - o Steps and Procedures
  - o One Sample Test and Two Samples Test
  - o 1 Tail and 2 Tails Testing
  - o Alpha and Beta Errors
  - o Mean Hypothesis Testing
    - ▪ Normal Z Testing
    - ▪ t-Student Testing
  - o Variance Hypothesis Testing
    - ▪ Chi-Square Testing
    - ▪ Fisher F Testing
    - ▪ Analysis of Variance (ANOVA)
- Real life example exercises
- MS Excel and MINITAB software application

Who Should Attend

Production and Operation Managers, Executives, Engineers and Supervisors, Quality, Technical, Engineering and those involved in Project Improvement activities in any organization.

Duration

2 days

Training Methodology

The program would be conducted by using the following materials / aids :-

- ✓ Course Note
- ✓ OHP / LCD
- ✓ Video Showing
- ✓ Group Activities
- ✓ Lecturettes