Statistical Analysis Tools in Six Sigma (SATSS)

INTRODUCTION

- This programme is designed by Six Sigma practitioners who found the most appropriate Statistical Tools to be used for Process Improvement Projects.
- This programme draws case studies and examples from all business sectors ranging from transactional to manufacturing.
- This programme is aimed at participants who are working on improvement projects to analyse data using the most useful statistical tools, that are quantitative and intense, necessary for those determined to minimize corporate waste and maximise operational efficiency.
- This programme would help participants in describing data both graphically and numerically, whilst focusing on concepts, applications and interpretations of the tools used during the DMAIC stages.

DURATION: 3 DAYS

Online Materials Provided!

COURSE CONTENT / CURRICULUM

Day 1: Continuous Data Tools

- Type 1 & Type 2 error
- Degree of Freedom
- Power and Sample Size
- 1 Sample t-Test
- 2 Sample t-Test
- Paired t-Test
- One way ANOVA
- Two way ANOVA
- Test of Equal Variance (TOEV) Tables

Day 2: Continuous Data Tools

- Correlation Analysis
- Simple Linear Regression
- Multiple Regression
- Best Subset Regression
- General Liner Model (GLM)
- Binary Logistics Regression
- Ordinal Logistics Regression
- Nominal Logistics Regression

Day 3: Attribute Data Tools & Non-Parametric Tests

- 1 Proportion Test
- 2 Proportion Test
- Chi-Square Test
- 1 Sample-Wilcoxon Test
- Mann-Whitney Test
- Kruskal-Wallis Test

Additional Curriculum (over 3 days):

- Hypothesis Testing
- Sigma Value / Z-Bench
- Graphical Tools for Statistics
  - Pareto Charts
  - Box Plots
  - Run Charts
  - Dot Plots
  - Scatter Plots
  - Matrix Plots
  - Histograms
  - Time Series Plots

Trainers & Consultants Profile

Dr. Satnam Singh | Experienced LSS Deployment in Europe & India

Dr. Satnam Singh graduated from Liverpool John Moores University (UK) with a Bachelor's Degree in Mechanical Engineering. He then furthered his studies at Coventry University in UK & was awarded with a Master's Degree of Science in Engineering & Manufacturing Management. Dr. Satnam then continued to study for his doctorate and was awarded with a PhD in Engineering & Manufacturing Management.

Dr. Satnam has been actively involved in the field of Continual Improvement activities since the beginning of his tertiary education. While accomplishing his Master's Degree in the United Kingdom, he had been extensively trained in Lean Systems & Six Sigma whilst working as a Project Manager for a Multinational Corporation (MNC) in the UK for 14 years. During his stay with the MNC in the UK, Dr. Satnam was tasked with the responsibility of promoting and implementing Lean & Six Sigma within the Organization and throughout Europe. Due to his extensive exposure to Lean & Six Sigma Management Systems, he was invited by the company's European Subsidiaries to conduct in-house training, project consultations, and strategic planning in the area of Six Sigma implementation. Dr. Satnam is known as a Visiting Lecturer in Infosys India.

Mr. Harbans | Experienced LSS Deployment in Samsung & Asia Pacific

Mr. Harbans Singh, is a graduate of University of East London and holds a Bachelor's Degree (Hons.) in Information Technology majoring in Software Engineering. He is certified as a Six Sigma Black Belt trained by Juran Institute (USA & Korea) under the supervision of Samsung Electronics Asia Pacific. Mr. Harbans has gained over 12 years of working experience both in the manufacturing & service industries.

Mr. Harbans has extensive experience in performing statistical analysis by using statistical software (MINITAB) and various quality tools. Harbans was involved in Innovating Supplier Processes using QDC (Quality, Delivery & Cost) improvement and Improving Supplier Processes by utilising OEE & Lean concepts. He's major achievement would include the development of Six Sigma Green Belts & Six Sigma Black Belts within Samsung Electronics Asia Pacific Region. Furthermore, he mentored Six Sigma Yellow Belt, Green Belt & Black Belt projects that contributed to total cost savings of USD $15 million during the past 6 years. He also has extensive experience in developing and conducting Six Sigma Champions Training, Black Belt, Green Belt & Yellow Belt training programmes for Private Companies, major Government Linked Companies (GLCs) in Malaysia & many other Government Agencies.

Trainers & Consultants Profile

Dr. Muraliraj | Expert in LSS, Process Improvement & Lean Enterprise Solutions

Dr. Muraliraj holds a doctorate degree from University of Malaya (Malaysia) overlapping the field of Quality Management, Continuous Improvement & Innovation. His research base is centred around continuous improvement philosophies such as Lean & Six Sigma and how their application & management can potentially morph towards innovation.

Specialised in process mapping, optimization, cost reductions, and deploying process excellence strategies, Dr. Muraliraj has been involved in process excellence projects, performance improvements, and change management in shipping, oil & gas, engineering, and IT industries for more than 7 years. One of his recent successes includes training & coaching Lean Six Sigma in a national multi-industry corporation involving tens of personnel ranging from various designations which led to substantial financial savings besides sustainable operational excellence.

Mr. Muhammad Nizam | Lean Six Sigma Consultant & Trainer

Mr. Nizam holds a degree in Electrical & Electronic Engineering with a specialization in Control & Instrumentation from Universiti Teknologi PETRONAS (UTP). His professional journey has centered on the manufacturing sectors. During his tenure as a Production Executive and later as a Manager, Mr. Nizam discovered a profound interest in Continuous Improvement and Culture Transformation.

In pursuit of this passion, Mr. Nizam has undertaken numerous projects aimed at enhancing productivity, increasing operational efficiency and ultimately minimizing costs to maximize profit margins. His dedication to continuous improvement led him to acquire certification in Lean Six Sigma Green Belt, allowing him to adopt a more systematic and strategic approach to his work. Furthermore, Mr. Nizam played a pioneering role in introducing new technology and automation into the production process through the strategic implementation of Industry 4.0 in his previous company. This transformational effort has reshaped traditional production lines into agile, data-enabled, and highly efficient production units, reflecting his commitment to staying at the forefront of industry trends.

Mr. Arvinash Singam | Lean Six Sigma Consultant & Trainer

Arvinash Singam is a dedicated and results-oriented Lean Consultant & Trainer with a strong background in continuous improvement and manufacturing optimization. With a master's degree in physics from the University of Heidelberg, Arvinash combines his analytical mindset and problem-solving skills to drive process enhancements, reduce waste, and foster operational efficiency. He has applied his experience in continuous improvement, process re-layouts and data-driven decision making to help teams achieve significant productivity gains without adding manpower. Arvinash's unique combination of physics knowledge and Lean methodologies equips him with a deep understanding of both technical and operational aspects, making him highly effective in promoting a culture of continuous improvement.

Trainers & Consultants Profile

Mr. Lee Zicing | Lean Six Sigma Consultant & Trainer

Lee Zicing is a results-driven Lean Six Sigma Consultant & Trainer with a strong foundation in the FMCG manufacturing sector. Holding a First-Class Honours degree in Food Science, he blends technical knowledge with real-world experience to improve operational efficiency, compliance, and product quality. His work supports key industry standards such as ISO 9001 and FSSC 22000.

Throughout his career, Lee has led numerous Lean Six Sigma, Root Cause Analysis, and Continuous Improvement initiatives. Notable achievements include reducing net-weight product defects from 5.96% to 2.06%, saving RM 40,525 monthly, and enhancing production control through improved statistical process control and feedback systems. His 5S Kaizen leadership reduced misplaced items by 61.9% in a week, while SAP optimization cut turnaround time from three days to one.

Lee is a certified Lean Six Sigma Black Belt (CSSC), a registered Graduate Technologist with MBOT, and holds a Google Project Management Professional Certificate. His data-driven mindset and proven track record make him a valuable partner for organizations seeking sustainable, measurable improvements in manufacturing performance.

Mr. Sures Sambathan Muthaliyar | Lean Six Sigma Consultant & Trainer

Mr. Sures Sambathan Muthaliyar holds a Bachelor's Degree in Mechanical Engineering (Hons.) from Universiti Tenaga Nasional (UNITEN). His professional journey spans the semiconductor, automotive, and precision manufacturing sectors, where he has built deep expertise in Process Engineering, New Product Introduction (NPI), Industrial Engineering, and Continuous Improvement. Throughout his career at ON Semiconductor, Stanley Engineered Fastening, Rovski Industries, and Jabil Circuit, Mr. Sures has successfully led cross-functional initiatives involving DOE studies, SPC implementation, Lean Six Sigma projects, and digital transformation efforts through the deployment of RPA tools and low-cost automation. His work has resulted in major operational improvements, including scrap rate reductions, productivity enhancements, process standardization, and strengthened manufacturability.

In addition to his technical competencies, Mr. Sures has championed smart manufacturing initiatives such as Industry 4.0 integration, MES system configuration, and data-driven process monitoring. His commitment to continuous improvement, operational excellence, and innovative problem-solving positions him as a trusted consultant for organizations aiming to enhance efficiency, drive transformation, and achieve sustainable growth.