Statistical Analysis Tools in Six Sigma (SATTS)

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 Faisal | Expert in LSS Specialized in Manufacturing & Process Improvements

Mr. Faisal graduated from University of Technology (UTM), Malaysia with Bachelor's in Chemical Engineering & later pursued his Master's in Business Administration at University Utara Malaysia. He started his career as an engineer in a renowned MNC & was later enrolled in Lean & Six Sigma as a practitioner & was selected as a trainer. His role as a senior staff allows him to work with front-line & middle management.

While working as a coordinator in Innovation Team, he was liaising with top management such as Factory Managers & Directors and had contributed to establishing company strategies toward achieving the mission & vision. While enduring his career as a continuous improvement specialist, he was extensively involved in process improvement initiatives, Six Sigma & Lean Manufacturing. He has profound experience in manufacturing, engineering, & training.

Mr. Balasharmila Rao | Senior BPM Consultant

Mr. Bala is a Mechanical Engineering graduate from the National University of Singapore (NUS) with a specialization in Offshore Oil & Gas Technology. Parallel to his undergraduate study, he has completed a three-year Design Centric Programme (DCP) under NUS, culminating in a successful Electric Vehicle (EV) conversion project with a peer-reviewed IEEE Journal paper publication.

After an industrial attachment with Schlumberger & maiden career start with Halliburton in the oilfield equipment design vertical, Mr. Bala returned to Kuala Lumpur in 2016 and joined YTL Communications (YTLC) in the Facilities Management Department. He developed the department's first suite of Standard Operating Procedures (SOPs) for Operations & Maintenance, coordinated the department's audit compliance for ISO27001: 2013- Information Security Management System (ISMS) for YTLC's Data Centers, and improved diverse aspects of maintenance operations such as Preventive & Corrective Maintenance Management, Rounds & Readings & Facility Management Service Requests. He is also instrumental in improving YTLC's overall National Department of Occupational Safety & Health (DOSH) Audit rating from a Grade 'D' in March 2018 to a Grade 'A' in October 2018 with further recommendation for Ministerial Award Competition participation. Mr. Bala holds certifications in Lean Six Sigma Green & Black Belt, ISO9001: 2015 (QMS) Requirements, Train The Trainer (PSMB TTT/27657), and Oil & Gas Law (BAC).

Trainers & Consultants Profile

Mr. Bimal Raj | Trainer & Consultant

Mr. Bimal has 25 years of working experience in the Semiconductor Industry and 2 years in Engineering Education from 1994 to 2019 having worked in organizations such as Motorola, Freescale, On and Infineon Semiconductor. Well-versed in Front End Surface Mount and Flip Chip Technology. Headed and successfully completed several projects involving New Product Introduction, Quality, and Productivity Improvement. Developed necessary Quality Systems for the Development Lab to meet IATF16949 standards at Infineon Semiconductor from 2019 to 2021.

Effectively applied Six Sigma Statistical Tools, DMAIC, and Kaizen concepts to various projects. Implemented FMEA, Poka Yoke, and Statistical Control Charts to improve and sustain high-quality standards in line with the Six Sigma concept to new and existing processes.

Qualified and Introduced New processes such as Laser Groove sawing and UV cure in the Flip Chip process flow. Have qualified and upgraded new equipment at Die Attach, Pick and Place, Reflow and Cleaning processes among others.

Ms. Anissa Ridzuana | Trainer & Facilitator

Anissa Ridzuana is a PETRONAS University of Technology (UTP) graduate with a Bachelor's Degree in Chemical Engineering (Hons.), majoring in Process Plant Engineering. During her internship at Top Glove Corporation Bhd, she studied the performance of cartridge filters to reduce total suspended solids and aided in reducing latex wastage in the production of gloves. She participated in Plant Design for Resource Recovery of Industrial Wastewater project in her university. She consolidated the process and focused on the compliance of the plant towards Health, Safety, and Environment (HSE) aspects and any local environmental regulations.

Besides, she was involved in developing a prediction model to predict chemical compound (hydrate formation) temperature. She also strategized a business plan to generate income for the American Institute of Chemical Engineers UTP Student Chapter (AIChE-UTP-SC).

During her university days, she was involved in many activities including secretariat, director and, assistant project director roles that enhanced her leadership skillset. Anissa also excels and has an exceptional track record in her academics and curricular activities. She was awarded Dean's list for three consecutive semesters and represented her faculty in netball tournaments.