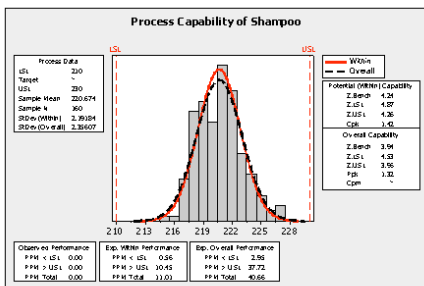
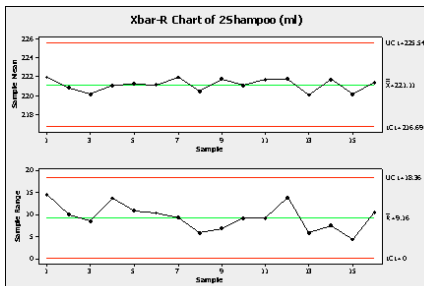


Statistical Process Control



Statistical Process Control (SPC) is a key component of a “Total Quality Management” and LEAN system. Ultimately SPC significantly improves profit and adds value by:

- improving product and service quality
- improving productivity
- streamlining processes
- reducing waste
- reducing environmental emissions
- improving capacity and predictive outcomes

Statistical Process Control (SPC) and other quality tools being introduced in this workshop will help you significantly improve the quality of the finished article or service. Statistical process control (SPC) involves using techniques to measure, analyse and control variation in processes.

Some companies are still traditionally endeavouring to achieve quality through multiple layers of 100% inspection. Accepting or rejecting each article or process outcome based on how well it met its individually interpreted quality standard or design specification.

In contrast to an inspection based system, **Statistical Process Control** uses tools to observe or monitor the performance of the production or service process’s tendency to vary in order to predict an outcome that if not corrected may later result in rejected product BEFORE IT HAPPENS. Thus SPC is known as a prevention and prediction tool for quality.

Benefits:

- Provides a method of surveillance and feedback for keeping processes in control.
- Signals when a problem with the process has begun and is about to affect quality adversely.
- Detects assignable causes of variation or root causes.
- Accomplishes process characterisation, trends and patterns.
- Reduces the need for inspection due to predictability.
- Monitors process quality at the source.
- Provides a mechanism to make process changes and track the effects of those changes.
- Once causes of variation have been eliminated, SPC provides ongoing process capability analysis with comparison to the desired outcome.



Workshop Content and Learning Objectives

SPC uses capability and control charting as the primary tool and as a graphical representation of the voice of the process. Critical to quality characteristics are measured, plotted and used as the communication method from the process to the operator or technician that the variation and outcomes are within acceptable limits and trending normally. These descriptive statistics (The voice of the process) are displayed on the control chart and compared to their predetermined "control limits". Several different descriptive statistics can be used in control charts and there are several different types of control charts that can test for different causes.

Session One (full day)

- Introduction to Statistical Process Control
- 7 Tools of Quality
- DMAIC – PDCA - SIPOC
- Critical to Quality
- Variables – Attributes
- Understanding Variation
- Measurement R&R
- Process Stability & Capability
- SPC Control Charts & their rules
- Assignment of workplace SPC projects

Session Two (evening)

- Presentation, review and discussion SPC workplace projects.
- Common Causes – Special Causes

- Design / Variation Separation
- Process Trends and Adjustment
- Variation reduction
- Quality / Variation problem solving

The workshop objectives

- Understand Variation
- Understand Statistical Process Control
- Selection of the right method for control
- Be able to evaluate the Measurement Process
- Be able to select Critical to Quality requirements
- Make Sense of Data (The voice of the process)
- Practical Process Improvement

What we supply

- Full set of workshop notes
- Light refreshments and lunch daily

Some History of SPC

Statistical Process Control was pioneered by Walter Shewhart in the early 1920s and in more recent times Edward Deming improved the SPC methods and made them well known to the manufacturing industry by very successfully improving quality in manufacture of munitions and other strategically important products during and just after World War Two. Deming was instrumental in introducing SPC methods to Japan and to this day, although the methods have improved slightly are still practiced by leading organisations today.