adob Quality Toolkit | Control Chart

DESCRIPTION

A control chart is used to determine whether or not the process is under statistical control. The information can be used to assess whether any variation observed in a process is due to common cause (inherent, random, or built into the process) or special cause (non-routine, non-random events) variation.

The chart has a central line for the average and an upper and lower control limit. The upper and lower control limits are usually set to three standard deviations (σ) above and below the average "central line", respectively.

There are many types of control charts depending on the type of data used. The two types of data are variable (continuous) or attribute (discrete) data.

- Determine the appropriate control chart to use for your data set.
- Determine the time frame for the data collection.
- Based on the data collected, construct the control chart and analyze the data.
- Analyze the data (Shewhart rules) and note any "out-of-control signals" on the control chart. Few examples include:
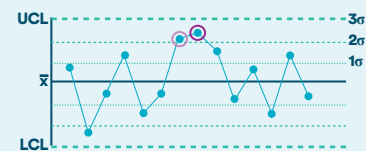
A single point outside the control limits.	
Two out of three successive points are on the same side of the centerline and farther than 2 σ from the mean in the same direction.	
Four (or five) out of five points in a row are more than 1 σ from the mean in the same direction.	

- Single point outside the control limits.
- Two out of three successive points are on the same side of the centerline and farther than 2 σ from it.
- Four out of five successive points are on the same side of the centerline and farther than 1 σ from it.
- Obvious consistent or persistent patterns that suggest something unusual about your data and your process.
- Investigate the cause and determine if root cause analysis is required (usually with special cause variation).
- Continue to plot and analyze the date.

STRENGTHS

Useful in proving a visual and statistically sound display of process variation.

WEAKNESSES

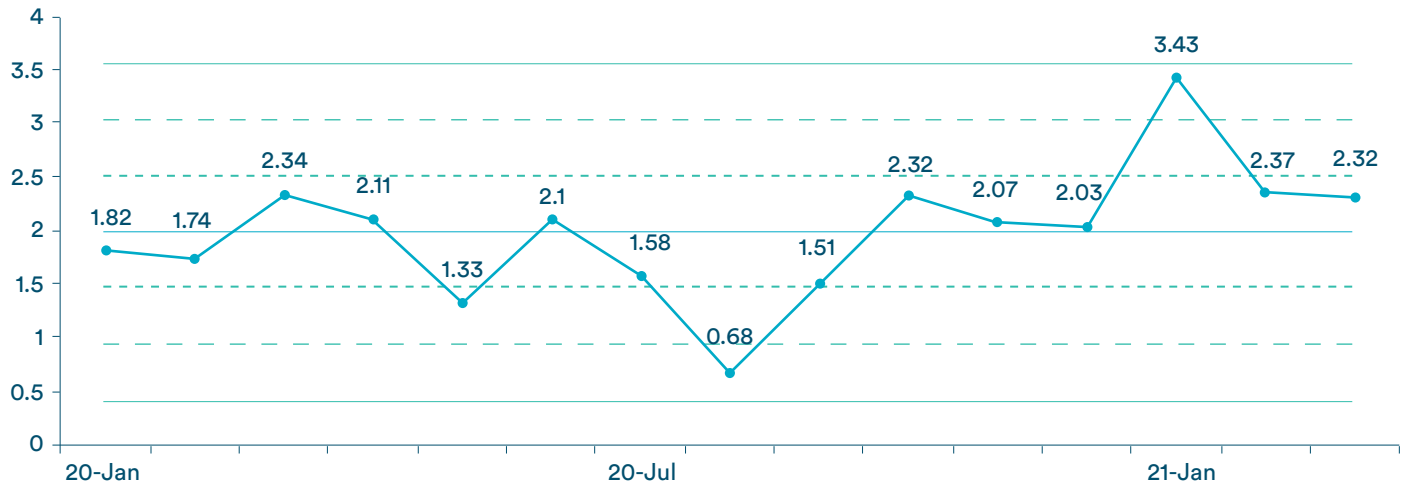Lack of knowledge in using Statistical Process Control is helpful.

APPLICATIONS

1. Detect variation in a process.
2. Post implementation analysis.

Average Donor Reactions January 2020 to March 2021

When we apply the rules, none of the rules apply indicating that there is no special cause variation occurring and that our process is still in control.