

RUN CHART

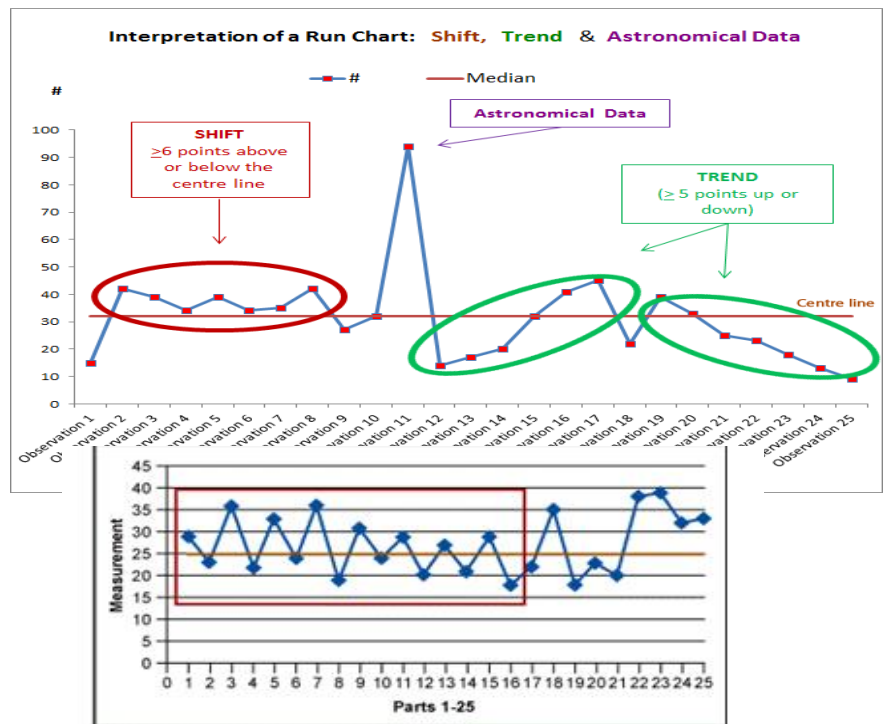


A run chart is a line graph of data plotted over time. By collecting and charting data over time, trends or patterns in the process becomes evident. Run charts do not use control limits and cannot show if a process is stable. They do demonstrate how the process is running.

Run Chart Components:	
Title	Include what is being measured, period it was measured and location of measurement, date range of data shown
X-Axis	Time (e.g., day, week, month) or observation number. Always entered in time order (e.g., what came first second, third, etc.)
Y-Axis	The dependent variable/the unit measured (e.g., number observations, defect, etc.)
Center Line	The center of the chart, representing the appropriate mean/median of all the points plotted
Points	The plotted data that has been collected

Interpreting Run Charts:

- **Shift** – Six consecutive points all above or below the median
- **Trend** – Five consecutive points all going upwards or downwards
- **Outlier/Astronomical Data** – An obvious, unusual data point
- **Alternating data-** Fourteen or more consecutive points alternating up and down indicates special cause variation exists in the process



Causes of Variation

- **Common Cause Variation** – All processes inherently have variation. This is normal and predictable, and is caused by normal variability within the system
- **Special Cause Variation** – occurs when there is some external influence (not normally observed) that causes a *significant change* in the system's performance

Significant Change

- This term refers to a "statistically significant change," and means that the performance of the system has shifted.
- Quality improvement tries to make changes to a system (an external influence) that changes the system's performance (special cause variation) which leads to a significant change (improvement).