MGT 6203 - Office Hours Summary – Module 13

Quality

- Meeting or exceeding customers expectations
- **Garvin's 8 Dimensions of Product Quality**
  - Performance
  - Functionality
  - Durability
  - Reliability
  - Conformance to Specifications
  - Serviceability
  - Aesthetics
  - Perceived Quality
- **Dimensions of Service Quality**
  - Consistency
  - Courtesy
  - Convenience/Availability
  - Communication
  - Accuracy/Reliability
  - Timeliness/Responsiveness
  - Credibility/Trustworthy
  - Security

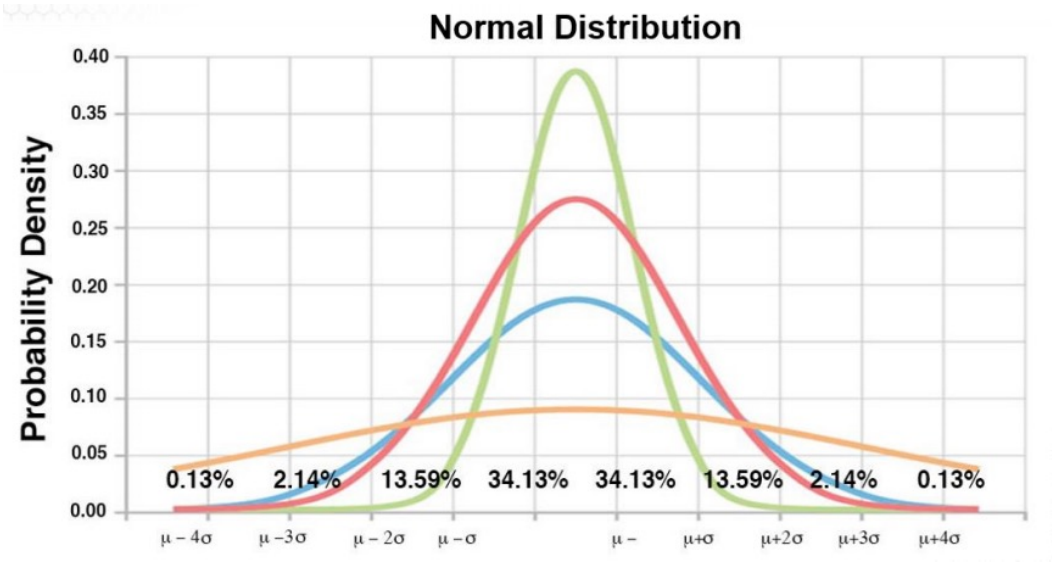
Cost of Quality

Cost of Good Quality

Cost of Poor Quality

Variation

- The extent to which, or the range in which, a thing varies
- Types of Variation
  - Random/Common Causes
    - Inherent in the process used
    - Unavoidable with current process
    - Can do nothing about this
  - Assignable/Special Causes
    - Can be identified
    - Can be corrected/fixed



Control Charts

- Used to identify assignable causes of variation
- $\bar{x}$ Chart(Monitors the mean)

  Assuming 3σ limits:

  UCLx = $\bar{\bar{X}} + A_2 * \bar{R}$

  LCLx = $\bar{\bar{X}} + A_2 * \bar{R}$

- R Chart (Monitors the spread)

  Assuming 3σ limits:

  UCLr = $D_4 * \bar{R}$

  LCLr = $D_3 * \bar{R}$

Process Capability

- SPC tells us if a process is showing signs of an assignable cause of variation but there is another important aspect to a given process
- **Cp = (Upper specification – Lower Specification)/6σ**
  - Cp >=1.0 indicates process is capable
  - Six Sigma equates to a Cp >=2.0
  - This value only looks at spread, not how well a process is centered on its target value
- **Cpk = Minimum of [{upper specification-$\bar{\bar{x}}$/3σ} , {$\bar{\bar{x}}$ -lower specification/3σ}]**
  - Gives the proportion of variation between the center of the process and the nearest specification limit
  - Cpk = 1 means process meets specifications
  - Cpk < 1 Process does NOT meet specifications
  - Cpk > 1 Process is better than the specification requires