

Quality Genealogy

First Generation **Inspect out Defects**

- > Most obvious and simplest to use.
- > Most expensive to use
- > A lot of non value added work
- > Although expensive and inefficient, it works relatively well

Second Generation **Engineer Out Defects**

- > Intended to catch variations in production as they begin to occur and make corrections before you produce a significant number of rejects
- > Currently in wide spread use
- > Can be expensive to install - investment, not expense per item
- > Utilizes Statistical concepts e.g. SPC

Third Generation **Variance Free System**

- > Effort is focused on removing the opportunity or causes of variance in advance
- > Variation is what produces non conforming product
- > Currently Limited in use
- > All aspects of a business are considered:
 - > Interrelationships between departments
 - > Development of strategic business plans
 - > Internal and External customers
 - > Identify customer base - include their needs, wants, expectations

= TQM

Six Areas Creating Variance

1. Raw Material
2. Process and MFG methods; must be stable and designed for fixed flexibility
3. Engineering Systems and Machines; designed to anticipate variance & reliably predict when variance will occur
4. Human side - e.g. reduce using Poka Yokes
5. Environmental
6. Customer; Include in system design and update