8 Quality Management - Key concepts

Key concepts

- **Universality**
  - Proj. Qual. Mgmt. adresses project mgmt processes AND deliverables. It applies to all projects. Measures & techniques are project specific
- **Quality vs Grade**
  - Quality = Degree to which a set of inherent characteristics fulfills requirements (ISO 9000 definition)
  - Grade = Category assigned to deliverables having the same functional use but different characteristics
- **Prevention over inspection**
  - It is better to design quality in than to find quality issues during inspection.
  - Cost of prevention is less than finding & correcting errors during inspection
- **Sampling**
  - Attribute Sampling = Result either conforms or not
  - Variable Sampling = Result is rated on a continuous scale
- **Tolerances and control limits**
  - Tolerances = Specified range of acceptable results
  - Control limits = Boundaries of common variation in a statistically stable process
  - 1Sigma = 68.3%, 2Sigma = 95.5%, 3Sigma = 99.7 %, 6 Sigma = 3.4/Mio.
  - 6Sigma → DMAIC (Define, Measure, Analyze, Improve, Control)
- **Cost of Quality = all costs incurred over the life of the product for**
  - Preventing non-conformance / appraising for conformance / failing to meet requirements
  - Is often a concern of program, portfolio mgmt, PMO, operations
- **Quality by design and by organizational awareness** are the most effective quality management approaches
- **OPM3 and CMMI** are benchmarking models for organizational maturity
- **5 Levels of quality**
  - 1 (Most expensive / worst): customer finds defects
  - 2 Detect & correct as part of quality control / 3 Use quality assurance to examine and correct processes / 4 Incorporate quality in design
  - 5 (Best): Culture of quality awareness in the organization