

Continuous Improvement Cycles

PDCA – Plan, Do, Check, Act

W. Edwards Deming introduced this cycle in the 1950s. This is a process – indeed, a culture – for institutionalising continuous improvement in an organisation.



- **PLAN:** Measure and analyse current performance. Determine what needs to be changed and how. Use root cause analysis as necessary. E.g. design or revise business processes to improve results.
- **DO:** Implement the plan and measure performance of the changed area
- **CHECK:** Assess the measured performance
- **ACT:** Decide on changes needed to improve the area further and repeat continuously.

DMAIC – Define, Measure, Analyse, Design, Verify



This is the cycle used by the Six Sigma® methodology. This methodology, initially developed by Motorola and now under the control of the Six Sigma Research Institute, is a continuous quality improvement approach with special emphasis on:

- Quality as defined by the customer.
- Rigorous statistical methods.
- Prioritisation of improvement projects in support of the organisation's strategic initiatives.

'Sigma' is a measure of the variation in a process relative to customer specifications. A process that operates at the six sigma level is 99.9997% defect free. Some processes need to operate at this level, others don't. However, the DMAIC measurement, analysis and improvement cycle can be applied to all processes.