External standards

Definition:

For an external standard quantitation, known data from a calibration standard and unknown data from the sample are combined to generate a quantitative report. It is called external standard because the standard or known material is separate or external to the unknown material. It involves a simple comparison of instrument responses from the sample to the responses from the target compounds in the calibration standards.

The ratio of the detector response to the amount (mass) of analyze in the calibration standard is defined as the calibration factor (CF).

Equation for Calibration Factor

(External Standard Curve)

$$CF = (Ax)/(Cx)$$

Where: Ax = Area of the compound

Cx = Concentration of the compound

Benefits

The advantages of external standard calibration are that it is simple to perform this type of calibration and it can be applied to a wide variety of methods.

BS EN ISO 9001:200

The standard is built on a foundation of the following principles

- Understanding by an organization of the need of their customer so that they can meet or even exceed those requirements
- Leadership to provide the unity of purpose and direction needed to achieve quality objective
- Involvement of staff at all level
- A focus on individual process which create intermediate or deliverable product & service
- A focus on the system of interrelated processes that create delivered product & services
- Continuous improvement of the process
- Decision making based on factual evidence
- Building mutually beneficial relationships with suppliers

ISO 15504

• ISO/IEC 15504 is a standard for process assessment that shares many concepts with CMMI

• The two standard should be compatible

• Like CMMI the standard is designed to provide guidance on the assessment of software development process.

Techniques to help enhance software quality

Three main themes emerge

• Increasing visibility

• Procedure structure

• Checking intermediate stages

Inspections

• It is very effective way of removing superficial errors

• It motivates developers to produce better structured and self-explanatory software

• It helps spread good programming practice

• It enhance team spirits

• Inspection are carried out on all major deliverables

• All types of defects are noted

• Inspection can be carried out by colleagues at all levels except the very top

• Inspection can be carried using a predefined set of steps

Software development

With this type of development there are three separate teams

• A specification team

• A development team

- A Certification Team