

## Cost of Quality

It's a term that's widely used – and widely misunderstood. The “cost of quality” isn't the price of creating a quality product or service. It's the cost of NOT creating a quality product or service. Every time work is redone, the cost of quality increases. Obvious examples include:

- The reworking of a manufactured item.
- The retesting of an assembly.
- The rebuilding of a tool.
- The correction of a bank statement.
- The reworking of a service, such as the reprocessing of a loan operation or the replacement of a food order in a restaurant.

In short, any cost that would not have been expended if quality were perfect contributes to the cost of quality.

### Total Quality Costs:

As the table below shows, quality costs are the total of the cost incurred by:

- Investing in the prevention of nonconformance to requirements.
- Appraising a product or service for conformance to requirements.
- Failing to meet requirements.

### Quality Costs—general description:

#### Prevention Costs:

The costs of all activities specifically designed to prevent poor quality in products or services.

Examples are the costs of:

- New product review
- Quality planning
- Supplier capability surveys
- Process capability evaluations
- Quality improvement team meetings
- Quality improvement projects
- Quality education and training

### **Appraisal Costs:**

The costs associated with measuring, evaluating or auditing products or services to assure conformance to quality standards and performance requirements.

These include the costs of:

- Incoming and source inspection/test of purchased material
- In-process and final inspection/test
- Product, process or service audits
- Calibration of measuring and test equipment
- Associated supplies and materials

### **Failure Costs:**

The costs resulting from products or services not conforming to requirements or customer/user needs. Failure costs are divided into internal and external failure categories.

**Internal Failure Costs:** Failure costs occurring prior to delivery or shipment of the product, or the furnishing of a service, to the customer.

Examples are the costs of:

- Scrap
- Rework
- Re-inspection
- Re-testing
- Material review
- Downgrading

**External Failure Costs:** Failure costs occurring after delivery or shipment of the product and during or after furnishing of a service to the customer.

Examples are the costs of:

- Processing customer complaints
- Customer returns
- Warranty claims
- Product recalls