



The Cost of Quality

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**Sum of costs incurred in
maintaining an acceptable quality
level plus the cost of failure to
maintain that level
(Cost of poor quality)**



QUALITY

Types of Costs

Prevention Costs

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

- New product review
- Quality Planning
- Supplier capability reviews
- Process capability evaluations
- Quality improvement team meetings
- Quality improvement projects
- Quality education & training

Appraisal Costs

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

- Receipt & source inspection/test
- In-process and final inspection/test
- Product / Process audits
- Purchase of acceptance equipment
- Calibration of measuring & test equipment

QUALITY

Types of Costs



Failure Costs: The costs resulting from products or services not conforming to requirements or customer/user needs, divided into internal & external failure categories

Failure Costs (Internal)

Failure costs occurring prior to delivery or shipment of the product/service to the customer:

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

Failure Costs (External)

Failure costs occurring after delivery or shipment of the product or service to the customer.

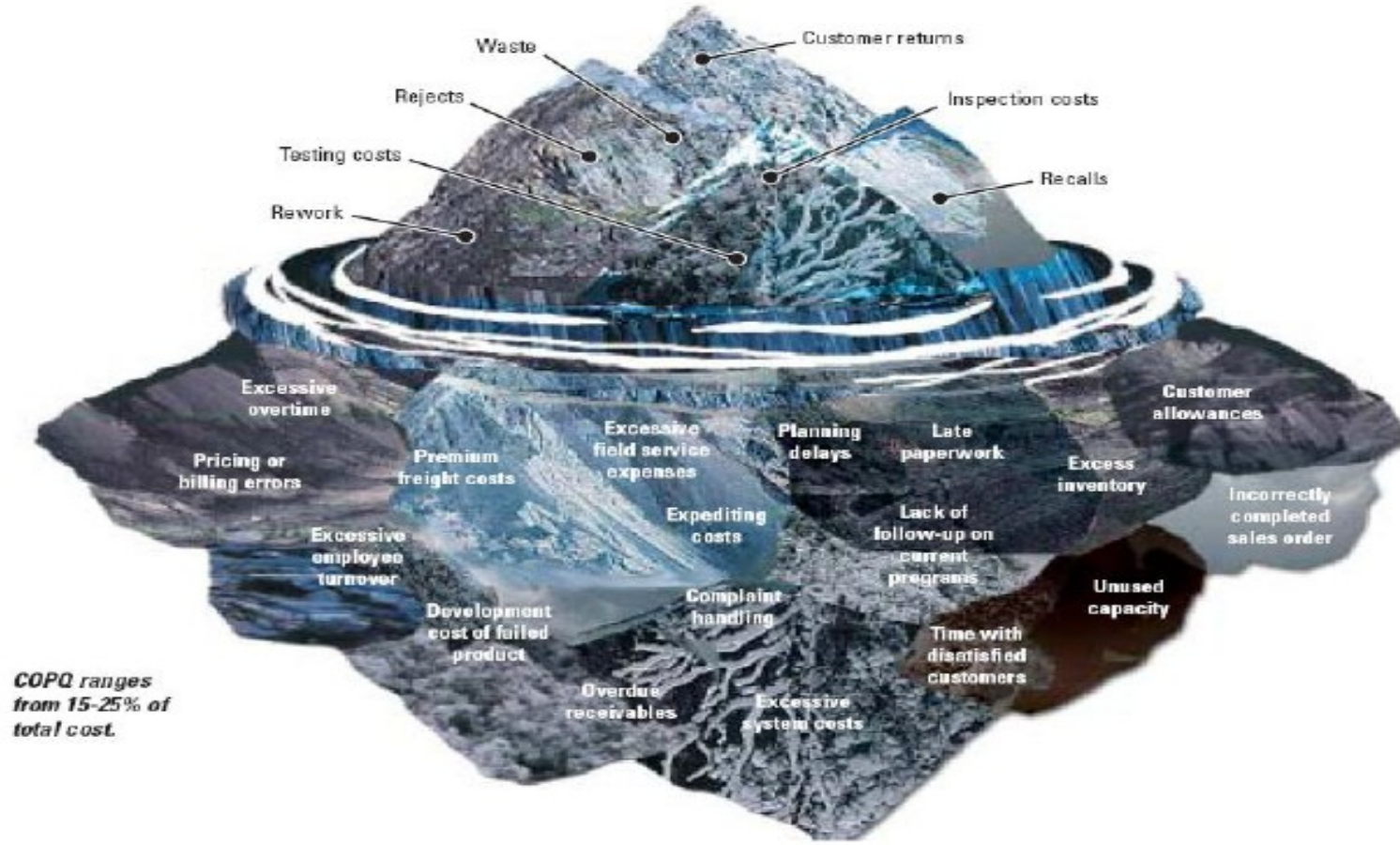
- Processing customer complaints
- Customer returns
- Warranty claims
- Product recalls

QUALITY

The Cost of Quality Iceberg

FIGURE 3 Cost of Poor Quality (COPQ)

As a company gains a broader definition of poor quality, the hidden portion of the iceberg becomes apparent:





Measurement Category	Stage 1 Uncertainty	Stage 2 Awakening	Stage 3 Enlightenment	Stage 4 Wisdom	Stage 5 Certainty
Cost of Quality as a % of sales	<p>Reported: ?</p> <p>Actual: 20%</p>	<p>Reported: 3%</p> <p>Actual: 18%</p>	<p>Reported: 8%</p> <p>Actual: 12%</p>	<p>Reported: 6.5%</p> <p>Actual: 8%</p>	<p>Reported: 2.5%</p> <p>Actual: 2.5%</p>

Quality is Free – Philip B Crosby



EXAMPLE OF A RECENT QUALITY IMPROVEMENT PROJECT UNDERTAKEN AT BARROW

**(Slides removed due to commercially
sensitive information (however if anyone
would like to discuss process followed
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