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**Question 1. What is the Cost of Quality?**

- Quality costs are all of the costs associated with ensuring that products manufactured (services provided) are in compliance with pre-defined specification standards or expenses fees related to products or services that do not comply with the pre-defined specification standards.

**Question 2. how to determine COQ, explain the fields of quality and example?**

The Cost of Quality can be divided into four categories. They include Prevention, Appraisal, Internal Failure and External Failure. Within each of the four categories there are numerous possible sources of cost related to good or poor quality. Some examples of typical sources of Cost of Quality are listed below.

- a. Prevention Costs – costs incurred from activities intended to keep failures to a minimum. These can include, but are not limited to, the following:
  - o Establishing Product Specifications
  - o Quality Planning
  - o New Product Development and Testing
  - o Development of a Quality Management System (QMS)
  - o Proper Employee Training
- b. Appraisal Costs – costs incurred to maintain acceptable product quality levels. Appraisal costs can include, but are not limited to, the following:
  - o Incoming Material Inspections
  - o Process Controls
  - o Check Fixtures
  - o Quality Audits
  - o Supplier Assessments

**The Cost of Poor Quality (CoPQ)**

3. Internal Failures – costs associated with defects found before the product or service reaches the customer. Internal Failures may include, but are not limited to, the following examples:
  - o Excessive Scrap
  - o Product Re-work
  - o Waste due to poorly designed processes
  - o Machine breakdown due to improper maintenance
  - o Costs associated with failure analysis

4. External Failures – costs associated with defects found after the customer receives the product or service. External Failures may include, but are not limited to, the following examples:
  - o Service and Repair Costs
  - o Warranty Claims
  - o Customer Complaints
  - o Product or Material Returns
  - o Incorrect Sales Orders
  - o Incomplete BOMs
  - o Shipping Damage due to Inadequate Packaging

Question 3:

3.1 What is "cost iceberg" of CoQ in software development process?

- “Cost Iceberg” of CoQ is the total cost of CoQ. It’s a concept like an iceberg include “easy to observe” cost part such as device, labour cost and hidden costs part for unfavourable events such as disruption.

3.2 What is its impact on CoQ?

- Impact: If project manager does not carefully calculate involved costs, the actual costs may exceed the anticipated budget. This makes investors and the boards put financial pressure on the projects. Meanwhile, the quality will also decrease due to less costs will be allocated in smaller sections than expected.

3.3 List the costs of software development process that you think it might be Cost Iceberg?

- Warranty cost.
- Lack of parts
- Equipment cost
- Training cost
- Unused capacity
- Planning delays
- Exercise overtime
- Replacement cost