

4(a)

## Design choice

A design choice is a possible solution to a problem.

Given a design task and a governing set of criteria (design specification).

Ex: The least expensive design is chosen in a bid process. In engineering, design choice usually derive from basic principle of material science and structural design.

Design choice is primarily a function of functional importance and maintenance frequency.

- Functional importance.
- Maintenance frequency.
- Choice.

Assignment of strategic scores to individual component.

Maintainability evaluation

Classify major task totals in descending order of strategic scores.

Arrange constituent task with each major task in proper sequence.

Considers design attributes with the next task in order.

Suggest feasible design

Does alternative satisfy?

Yes

Is making the design change cost?

Yes

After design

No

No

No

## Quality goals

Quality objectives are goals for the value of products, services and processes. It is a basic quality management process to establish a set of quality objectives.

Unlike a quality policy, that is set the top level of an organization, quality objectives can be specific to a department, team, process or project.

### • Defects

A goal for conformance to specification such as 0.1% of items failing quality control and 0% products being shipped with a defect.

### • Durability

A target for the minimum durability of a product such as 20,000 hours of use.

- Efficiency

The efficiency of products and services. For example a conversation efficiency goal for solar panels.

- Performance

The performance of product and services as measured by a figure of merit.

- Timeliness

On time performance such as a train line with a goal of less than 0.1% late arrivals.

- Stability

- Reliability.

- Availability.

- Accuracy.