



IIT ROORKEE



NPTEL ONLINE
CERTIFICATION COURSE

Project Management for Managers

Lec – 55

Introduction to Quality Management

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Sugarcane extraction gears



Wrist watch gears



Airplane gears

Taguchi ????

$$\text{Quality} \propto \frac{1}{\text{Variability}}$$



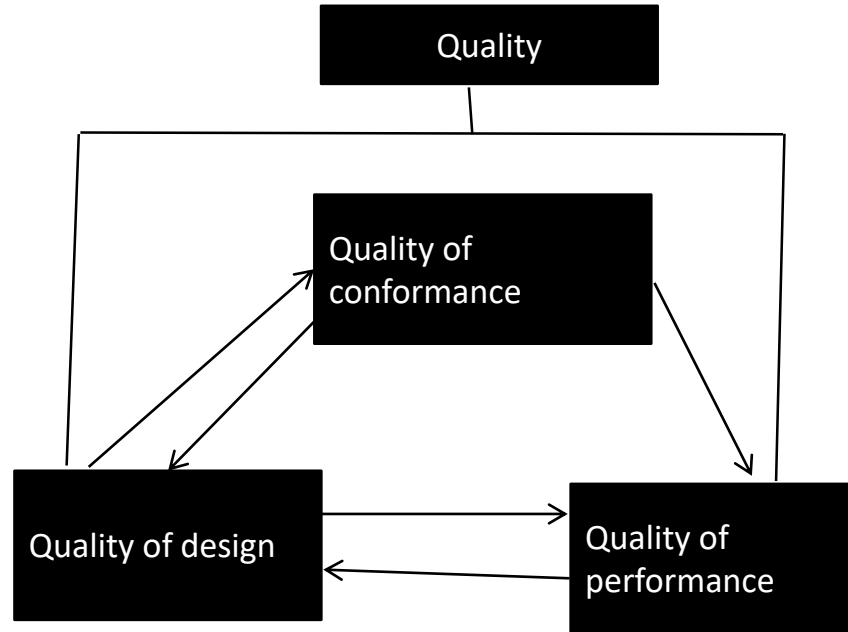
Dimensions of Quality

- **Performance** (P-Power, S/N ratio, S- Time to process a/c)
- **Reliability** (P-MTTF, S-Variability of time to process req.)
- **Durability** (P-Useful life with repairs, S-Pace with technology)
- **Serviceability** (how easy to repair)
- **Aesthetics**
- **Features**
- **Perceived Quality** (reputation of the company)
- **Conformance to standards** (Design)

How to remember ????



The Three aspects of quality



There are several **reasons** why the cost of quality should be **explicitly** considered in an organization.

1. The **increase** in the **cost** of quality because of the increase in the **complexity** of manufactured products associated with advances in technology.
2. Increasing awareness of life cycle costs, including **maintenance**, **spare parts**, and the cost of field failures.
3. Quality **engineers** and **managers** can most effectively communicate quality issues in a way that **management** understands.



Prevention costs: Prevention of non conformity

1. Quality planning and engineering
2. New products review
3. Product or process review
4. Process control
5. Burn-in: The cost of pre-shipment operation of the product to prevent early-life failures in the field.
6. Training
7. Quality data acquisition and analysis