

Preliminary Research

- Identify the customer base
- Perform market research
- Business/Marketing Plan

Customer Input to Design

- Goal in understanding design problem is translating customer's requirements into what need to be designed.

Determine Customer Base

- More than one class of customer exists
 - End use users
 - Own marketing personnel
 - Manufacturing personnel
 - Sales staff
 - Service personell
 - Others???

Consider their needs

- It is the desire of the customer NOT the engineer's vision of the customer's desires that should drive the design.
- This requires research!

End Use Consumers

- Consumers want products that:
 - Work
 - Last a long time
 - Easy to maintain
 - Attractive
 - Use latest technology
 - Provides features

Production Customers

- Easy to fabricate and assembly
- Uses existing available resources
- Uses standard parts
- Uses well developed technologies
- Uses existing facilities

Marketing Customers

- Meets consumer's needs.
- Easy to
 - Package
 - Store
 - Transport
- Is attractive and easy to display.
- Excites the consumer.

Consumer Satisfaction

- Basic Quality
 - Only verbalized when missing
- Performance Quality
 - Performance relative to expectations and the current competition
- Excitement Quality
 - Not noticed if absent
 - Surprise to consumer

Methods

- Use various methods for this determination
 - QFD method
 - Customer surveys
 - General Research
 - Competition analysis

Customer Surveys

- Specify information needed
- Determine the data collection method
- Determine content of questions
- Design and order the questions
- Take data
- Reduce data to useable information

Designing Questions

- Don't assume more than common knowledge
- Don't use jargon
- Don't lead customer toward a desired response
- Don't combine questions
- Use complete sentences