

# **New Product Development and Design for Manufacturability**

**Superfactory Excellence Program™**  
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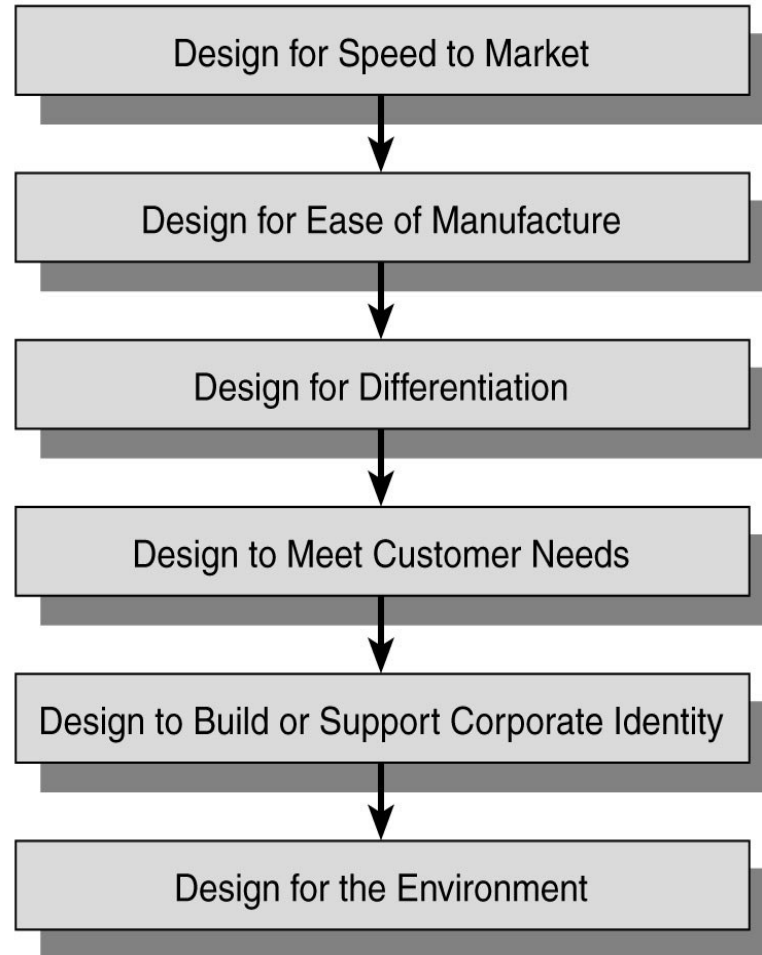
# Outline

- Review the strategic questions associated with the Product Development Process and the business strategy
- Review the typical Product Development Cycle
- Look at the outputs associated with the Product Development Process
- Look at techniques organizations are using to improve the Product Development Process:
  - Teams/Concurrent Design
  - Quality Function Deployment (QFD)
  - Designing Robust and Reliable Products
  - Designing For Manufacturing (DFM)
  - Computer Aided Design (CAD) and Information Technology

# What Is Design?

- Has been defined as “the synthesis of technology and human needs into manufacturable products.”
- In practice, design can mean many things, ranging from styling to ergonomics to setting final product specifications.
- Design has been successfully used in a variety of ways to help achieve new product objectives.
- One thing it is not: “prettying up” a product that is about to be manufactured!

# Contributions of Design to the New Products Process



# Range of Leading Design Applications

## Purpose of Design

Aesthetics  
Ergonomics  
Function  
Manufacturability  
Servicing  
Disassembly

## Item Being Designed

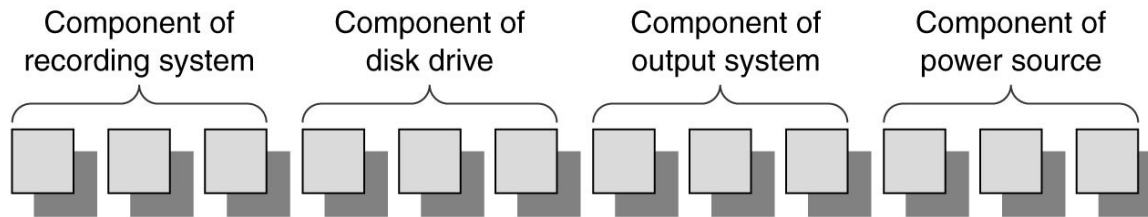
Goods  
Services  
Architecture  
Graphic arts  
Offices  
Packages

# Product Architecture

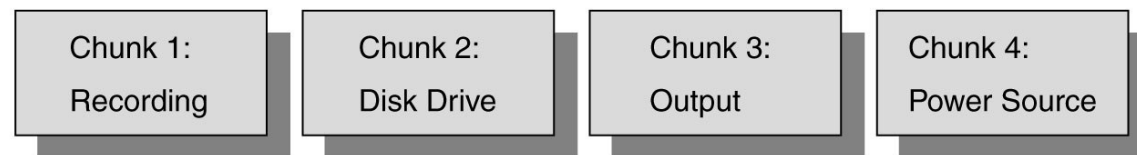
- The process by which a customer need is developed into a product design.
- Solid architecture improves speed to market, and reduces the cost of changing the product once it is in production.
- Product components are combined into “chunks,” functional elements are assigned to the chunks, and the chunks are interrelated with each other.

# Product Architecture Illustration

## Step 1: Product schematic



## Step 2: Cluster schematic elements



## Steps 3 and 4: Create geometric layout and check interactions (shown as arrows)

