

## 5. Value Analysis (VA) and Cost Control

### 5.1 Value Analysis (VA)

#### **Definition:**

Value Analysis is a method to improve the **value of a product** by analyzing its **functions** and finding **cheaper alternatives** without compromising quality.

#### **Key Terms:**

- **Value** = Function ÷ Cost
- **Function** = What the product does
- **Cost** = Money spent to get that function

#### **VA Process (Steps):**

1. **Information** – Understand the product and its use
2. **Function Analysis** – Break down the product into functions
3. **Creative Phase** – Think of better, low-cost alternatives
4. **Evaluation** – Compare solutions by cost and function
5. **Implementation** – Select and apply the best option

#### **Importance:**

- Reduces unnecessary cost
- Improves product performance
- Increases profits and customer satisfaction

### 5.2 VA Flow Diagram

Identify Product → Collect Information → Analyze Functions →  
Generate Ideas → Evaluate Ideas → Implement Solution → Follow-up

## **DARSIRI** Method of VA

**DARSIRI** stands for:

- **Define**
- **Analyze**
- **Research**
- **Specify**
- **Innovate**
- **Recommend**
- **Implement**

It's a **step-by-step approach** to applying Value Analysis.

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## **Case Studies of VA (Examples)**

### **Case 1: Car Door Handle**

- Original handle made of metal → cost: ₹300
- Replaced with fiber material → same function at ₹120
- Savings = ₹180 per handle

### **Case 2: Packaging Box**

- Original 5-layer cardboard → switched to 3-layer for same safety
  - Reduced material cost by 20% without damaging product
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## **Waste: Types, Sources, and Reduction**

**Types:**

- **Material waste, Time waste, Energy waste, Scrap waste**

**Sources:**

- Poor planning, overproduction, defects, waiting time

**Ways to Reduce:**

- Use efficient machines
  - Regular maintenance
  - Reuse or recycle materials
  - Train workers
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## Cost Control

### Methods:

- Budgeting
- Standard costing
- Inventory control
- Marginal costing

### Guidelines:

- Monitor expenses regularly
- Compare budget vs actual cost
- Use low-cost alternatives
- Involve employees in saving cost.

Scrap consists of recyclable materials, usually metals, left over from product manufacturing and consumption, such as parts of vehicles, building supplies, and surplus materials.

Standard cost is the expected cost calculated before production starts, based on efficient use of materials, labor, and overhead.

Marginal cost is the extra cost of making one more product unit.

