STANDARD COSTING

Dr. Ketaki Sheth

DEFINITION OF STANDARD COSTING:

- The definitions of standard cost given below show that standard cost predetermined cost. Let us see a few definitions:

- **According to Wheldon:** "Standard Costs are pre-determined or forecast estimates of costs to manufacture a single unit, or a number of units of a product during a specific immediate future period."

DEFINITION OF STANDARD COSTING:

- Standard Cost is a pre-determined cost which is calculated from the management's standards of efficient operation and the relevant necessary expenditure. It may be used as a basis for price fixing or for cost control through variance analysis.

- **Standard Costing:** The preparation and use of standard costs, their comparison with actual costs and the analysis of variances to their causes and points of incidence.
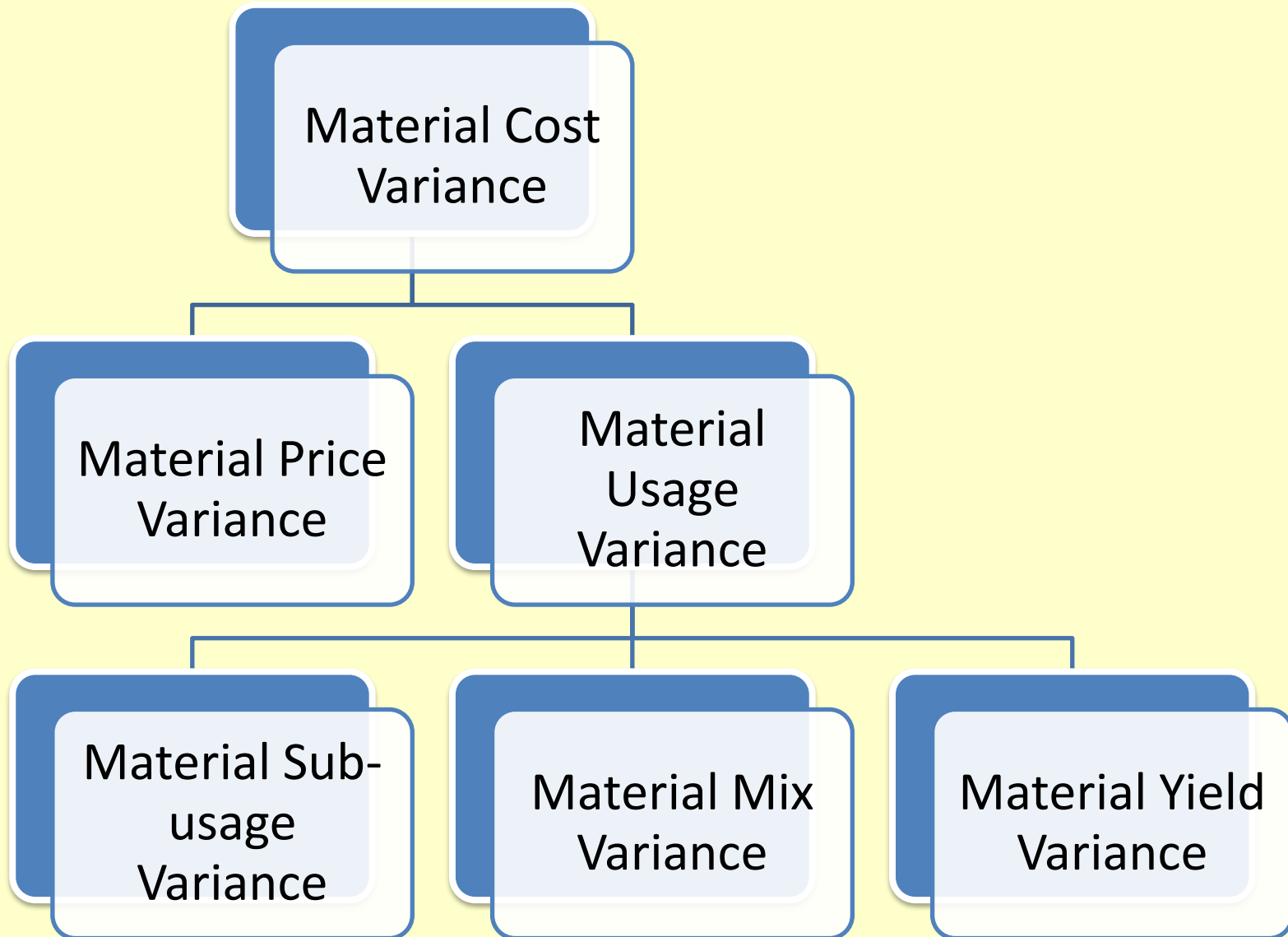
DEFINITION OF STANDARD COSTING:

Standard Costing : is a method of ascertaining the cost whereby statistics are prepared to show

    a. The standard cost;

    b. The actual cost; and

    c. The difference between these costs, which is termed the variance.

VARIANCES

Materials	Labour	Overheads	Sales
1. Material Cost Variance	1. Labour Cost Variance	1. Variable Exp. Variance	1. Sales Value Variance
2. Material Price Variance	2. Labour Rate Variance	2. Fixed Overhead Variance	2. Sales Price Variance
3. Material Usage Variance	3. Labour Efficiency Variance	3. Fixed Cost Variance	3. Sales Volume Variance
4. Material Mix Variance	4. Labour Mix Variance	4. Expenditure Variance	4. Sales Mix Variance
5. Material Yield Variance	5. Idle Time Variance	5. Volume Variance	
		6. Efficiency Variance	
		7. Capacity Variance	
		8. Calendar Variance	

MATERIAL VARIANCES

Material Cost Variance

Material Price Variance

Material Usage Variance

Material Sub-usage Variance

Material Mix Variance

Material Yield Variance

Material Cost Variance:

Material Cost Variance = (Standard Quantity x Std. Price)
- (Actual Qty. x Actual Price)

= Std Cost - Actual Cost

Material Price Variance:

Material Price Variance = Actual Quantity

(Std. Price – Actual Price)

= AQ (SP - AP)

Material Usage Variance:

Material Usage Variance = Std. Price (Standard Quantity

– Actual Quantity)

= (SP (SQ - AQ)

Example: 1

Calculate :
1. Material Cost Variance 2. Material Price Variance 3. Material Usage Variance
 From following data:

Material	Standard		Actual	
	Quantity (Kg.)	Price (Rs.)	Quantity (Kg.)	Price (Rs.)
A	600	8	720	7.50
B	900	10	1,080	10.20
	1,500		1,800	

Solution:

Material Cost Variance = (Standard Quantity x Std. Price) - (Actual Qty. x Actual Price)

A   =   (600 x Rs.8) – (720 x Rs.7.50)

        =   Rs.4,800 – Rs.5,400

        =   - 600 (U)

B   =   (900 x Rs.10) – (1,080 x Rs.10.20)

        =   Rs.9,000 – Rs.11,016

        =   -2,016 (U)

A+B   =   -600 – 2,016

        =   2,616 (U)

Solution:

Material Price Variance = Actual Quantity (Std. Price – Actual Price)

A = 720 (8.00 – 7.50)

    = 720 x 0.50   + 360 (F)

B = 1080 (10 – 10.20)

    = 1080 (-0.20)

                               - 216 (U)

                               Rs.+ 144 (F)

Solution:

Material Usage Variance = Std. Price (Standard Quantity – Actual Quantity)

A   =   8 (600 – 720)

        =   8 x -120

        =   -960 (U)

B   =   10 (900 – 1080)

        =   10 X -180

        =   -1,800 (U)

                        Rs.- 2,760 (U)

Verification

Material Cost Variance =   Material Price Variance
**   + Material Usage Variance**

$$= \quad + 144 - 2{,}760$$

-2616(U) OR(A) $= \quad - 2{,}616 \ (U)$

Example 2

Standard Costing is used in a factory in which the information regarding production of August 2019 is as follows:

Standard: for production of 80 kg., material required 100 kg. standard price of material is Rs.2 per kg.

Actual : Production   24,000 kg.

Material used   29,000 kg

Cost of material used   Rs.52,200

Calculate: 1. Material Cost Variance 2. Material Price Variance 3. Material Usage Variance

Solution:

a. Let us find out standard quantity for actual production:

For production of 80 kg, Std. quantity is 100 kg

For 24,000 kg   =   ?

          =   100 x 24,000 / 80

   SQ   =   30,000 kg

b. Actual Price   =   Rs.52,200 / 29,000 kg

          =   Rs.1.80

Solution:

Material Cost Variance = (Standard Quantity x Std. Price) - (Actual Qty. x Actual Price)

$$= (30,000 \times 2) - (29,000 \times 1.80)$$

$$= Rs.60,000 - Rs.52,200$$

$$= + 7,800 \text{ (F)}$$

Material Price Variance = Actual Quantity (Std. Price – Actual Price)

$$= 29,000 (Rs.2 - Rs.1.80)$$

$$= 29,000 \times 0.20$$

$$= + 5800 \text{ (F)}$$

Solution:

Material Usage Variance = Std. Price (Standard Quantity – Actual Quantity)

$$= \text{Rs.2} \, (30{,}000 - 29{,}000)$$

$$= 2 \times 1{,}000$$

$$= +2000 \, (F)$$

Example 3

Calculate : 1. Material Cost Variance 2. Material Price Variance 3. Material Usage Variance

From following data:

Purchase of Material : 6,000 Units

Cost of Purchase of Material : Rs.24,000

For Production of 1 ton,

Standard quantity of Material required: 50 Units

Standard Price : Rs.3.50 per Unit

Closing Stock of Material : 1,000 Units

Actual Production : 95 tons

Solution:

A. Let us find out standard quantity for actual production:

1 Ton Production = 50 Units

For 95 Ton Production = ? = 50 x 90 / 1

SQ= 4,750 Units

Lets us find out actual Material Used:

Purchase of Material : 6,000 Units

Less : Closing Stock : 1,000 Units

Actual Usage(AQ) : 5,000 Units

Solution:

Material Cost Variance = (Standard Quantity x Std. Price) - (Actual Qty. x Actual Price)

= (4,750 units x Rs.3.50) – (5,000 x Rs.4)

= Rs.16,625 – Rs.20,000

= Rs.   - 3,375 (U)

Material Price Variance = Actual Quantity (Std. Price – Actual Price)

= 5,000 (3.50 – 4.00)

= 5,000 x 0.50

= - 2500 (U)

Solution:

Material Usage Variance = Std. Price (Standard Quantity – Actual Quantity)

$$= \text{Rs.}3.50 \, (4{,}750 - 5{,}000)$$

$$= \text{Rs.}3.50 \times -250$$

$$= \text{Rs.} \, -875 \, (U)$$