

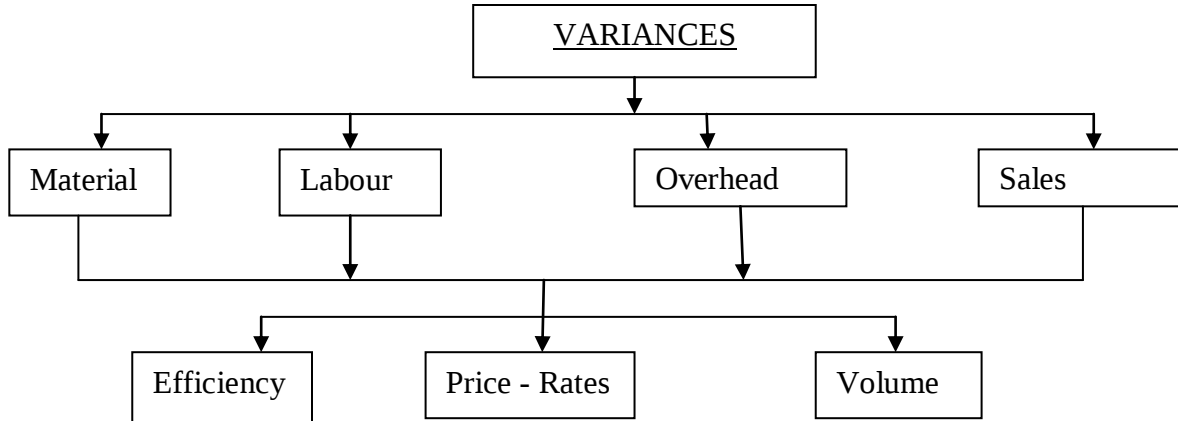
Standard Costing

Purpose of Standard Costing: to investigate the reasons for significant variances and to take necessary actions.

Cost variance is the difference between a standard cost and the comparable actual cost

Variance analysis is the analysis of the cost variances into its component parts and the explanation of variances.

Types of Variances : (may be favourable or adverse)



Reasons for variances :

Controllable: e.g.- increase in price due to fail to order timely.

Uncontrollable: e.g. Price fluctuations.

COMPUTATION OF VARIANCES

A: Material Variance:

Total Material variance = Standard Cost – Actual Cost

a) **Price Variance** = Actual Quantity (Std. Price – Actual Price)

b) **Usage variance** = Std. Price (Standard Quantity – Actual Quantity)

Can be calculated where several materials are used for manufacturing a product

- i. **Mix Variance** =
Total Actual Quantity (Std. cost per unit of Std. Mix - Std. cost per unit of Actual Mix)
- ii. **Yield Variance or Sub – Usage Variance** =
Std. Price per unit of Std. Mix (total Std. Quantity – total Actual Quantity)

Note:

- **Standard Cost:** Standard Price x Standard Quantity
- **Standard Quantity:** expected quantity of raw material required for actual output.
- **Standard Price:** means the expected (predetermined) cost per unit of raw material.
- **Actual Quantity** Actual quantity of raw material used for actual output.
- Where several materials are used for manufacturing a product, Variances shall be calculated for each material and then sum up each.
- **Std. cost per unit of Std. Mix:** Total Std. cost of std. quantity / total std. quantity
- **Std. cost per unit of Actual Mix:** Total Std. cost of actual quantity / total actual quantity

B: Direct labour variances:

Total Labour Cost Variance = Std. Labour Cost – Actual Labour Cost

a) **Rate variance** = Actual time (Std. rate – Actual rate)

b) **Efficiency variance** = Std. rate (Std. time – Actual time worked)

a. **Gang Composition variance or Labour mix variance:**

Total Actual time worked (Std. rate of std. gang – Std. rate of actual Gang)

b. **Sub - efficiency variance**

Std. rate for std. time (total std. time – total actual time)

c) **Labour idle time variance :**

Std. Labour rate (Actual hours worked – Actual Labour hours paid)

Note:

- **Standard Labour Cost:** Standard Rate x Standard Time
- **Standard Time:** expected no. of labour hours required for actual output.
- **Standard Rate:** means the expected (predetermined) Rate per labour hour.
- **Actual Time:** Actual no. of labour hours paid.
- **Std. rate of std. gang:** Total Std. cost of std. gang hours / total std. hours
- **Std. rate of Actual Gang:** Total Std. cost of actual Gang Hours / total actual hours

C: Overhead variances : Absorbed Overhead – Actual Overheads

Overheads are absorbed over **actual output** at a pre-determined rate, which is known as 'Standard overhead recovery rate', 'Standard overhead absorption rate' or 'Standard burden rate'.

Calculating Overhead Recovery Rate:-

- Estimate the likely overhead expenses for next period.
- Bifurcate into fixed and variable elements.
- Estimate the level of normal capacity, either in terms of production or machine hours etc.

Std Fixed Overhead Rate = Budgeted Fixed Overhead / Normal Volume of capacity

Std Variable Overhead Rate = Budgeted Variable Overhead / Normal Volume of capacity

a) **Variable Overhead Variance** = Std. overhead for actual output – Actual overhead

- i. **Variable Overhead Budget or Expenditure Variance** =
Budgeted overheads for actual hours worked – Actual Overheads; or
(Std. Rate x Actual Hours worked) – Actual Overheads
- ii. **Variable Overhead Efficiency Variance** =
Std. Overhead for std. hours – Std. overhead for actual Hours; or
Std. Rate (std. Hours – Actual Hours)

Note:

- **Std. Overhead for actual output:** Std. hours required for actual output x Std. Overhead per hour
- **Budgeted overheads for actual hours worked :** Std. Rate x Actual Hours worked
- **Standard hours:** means the expected hours required for actual output.
- Overhead mean "Variable Overhead".

b) **Fixed overhead variances :** Std. overhead for actual output – Actual overhead

- i. **Expenditure Variance:** = Total Budgeted overheads – Actual Overheads
- ii. **Volume Variance:** = Std. Overhead for actual output – total budgeted overheads
 1. Efficiency Variance: = Std. Rate (Std. Hours Required – Actual Hours worked)
 2. Capacity Variance: = Std. Rate (Actual Hours worked– Revised Budgeted Hours)
 3. Calendar Variance: = Std. Rate (Revised Budgeted Hours – total Budgeted Hours)

Note:

- **Std. Overhead for actual output:** Std. hours required for actual output x Std. Overhead per hour
- **Total Budgeted overheads :** Std. Rate x hours required for budgeted production.
- Revised Budgeted Hours: Hours per day x no. of actual working days
- **Standard hours:** means the expected hours required for actual output.
- Overhead mean "Fixed Overhead".

D: Sales variances :1. **Sales turnover or value method:**

Sales Value Variance = budgeted sales – actual sales

a) **Sale Price Variance** = Actual Quantity (Actual Price – Budgeted Price)

b) **Sale Volume Variance** = Budgeted Price (Actual Quantity – Budgeted Quantity)

- i. **Sales Mix Variance** : =
Total Actual Quantity (Budgeted Price per unit of actual mix – Budgeted price per unit of Budgeted mix)
- ii. **Sales Quantity Variance** : =
Budgeted Price per unit of budgeted mix (total Actual Quantity –Total Budgeted Quantity)

2. Profit or sales margin method:

Total sales margin variance: = Actual Margin – Budgeted Margin

a) Sales Margin Price Variance: =

Actual Quantity (Actual Margin per unit – Budgeted margin per unit)

b) Sales Margin Volume Variance: =

Budgeted Margin per unit (Actual units – Budgeted units)

i. Sales Margin Mix Variance: =

Total Actual Qty. (Budgeted Margin per unit of actual mix – Budgeted Margin per unit of Budgeted mix)

ii. Sales Margin Quantity Variance: =

Budgeted margin per unit of budgeted mix (total Actual Quantity – Total Budgeted Quantity)

ACCOUNTING PROCEDURE FOR STANDARD COST

Partial plan: under this plan the variances are analysed as the end of period. The following is the procedure under this plan.

- Record in Material, Wages and Overhead Control Accounts at Actual Cost.
- Charge to WIP control account at Actual Cost.
- Transfer to Finish Goods Control account at Standard Cost.
- Record WIP goods at Standard Cost in WIP control Account.
- Balancing figure in the WIP control Account is Variance.
- Analyse the variance at the end of period.
- The variances are debited or credited to various variance accounts.

Single Plan: under this plan the variances are analysed as soon as the transactions take place. The entries under this plan shall be made as follow:

1. Dr. Material Control a/c (Standard Cost)
Dr. or Cr. Material **Price** Variance a/c
Cr. Creditors a/c or GL Adjustment a/c (Actual Cost)
2. Dr. Wages Control a/c (Standard Cost)
Dr. or Cr. Labour **Rate** Variance a/c
Cr. Cash a/c or GL Adjustment a/c (Actual Cost)
3. Dr. Overhead Control a/c (Standard Cost)
Dr. or Cr. Overhead **Expenses** Variance a/c
Cr. Cash a/c or GL Adjustment a/c (Actual Cost)
4. Dr. WIP Control a/c (Standard Cost)
Dr. or Cr. Material **Usage** Variance a/c
Cr. Material Control a/c (Actual Cost)
5. Dr. WIP Control a/c (Standard Cost)
Dr. or Cr. Labour **Efficiency** Variance a/c
Cr. Wages Control a/c (Actual Cost)
6. Dr. WIP Control a/c (Standard Cost)
Dr. or Cr. Production **Volume** Variance a/c
Cr. Overhead Control a/c (Actual Cost)

Disposition of Variances:

- a. Write off all variances to P&L or Cost of Sales.
- b. Distribute the variance pro rata to cost of sales, WIP, and finished goods stock.
- c. Write off quantity variances to P&L but price variance pro rata distribution as point “b”.