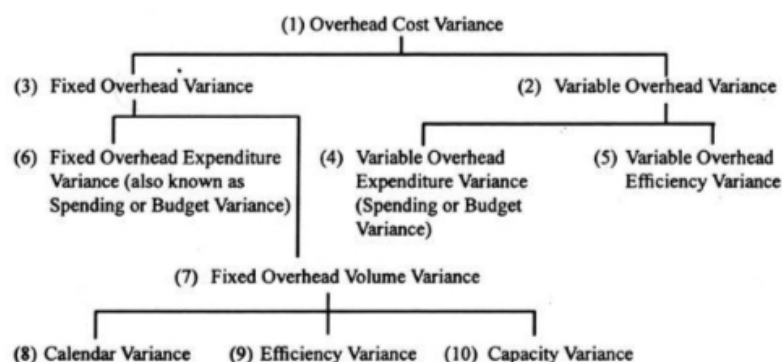


III. Overhead

Variations:

The analysis of factory overhead variations is more complex than variance analysis for direct materials and direct labour. There is no standardisation of the terms or methods used for calculating overhead variations. For this reason, it is necessary to be familiar with the different approaches which can be applied in overhead variations.

Generally, the computation of the following overhead variations are suggested:



(1) Total Overhead Cost Variance:

This overall overhead variance is the difference between the actual overhead cost incurred and the standard cost of overhead for the output achieved.

This can be computed by applying the following formula:

(Actual overhead incurred) –
(Standard hours for the actual output x Standard overhead rate per hour)

Or

(Actual overhead incurred) –
(Actual output x Standard overhead rate per unit)

To illustrate the overall overhead variance, assume that the actual overhead for a department amounts to Rs 1,00,000 for the month of January and standard (or allowed) hours for work performed total 4,500 hours, while actual hours used are 5,000.

If overhead rate is Rs 20 per hour, the overall overhead variance will be the following:

Actual department overhead	₹ 1,00,000
Overhead charged to production (4,500 hr × ₹ 20)	₹ 90,000
Overall or net overhead variance (Unfavourable)	<u>₹ 10,000</u>

(2) Variable Overhead Variance:

It is the difference between actual variable overhead cost and standard variable overhead allowed for the actual output achieved.

The formula for computing this variance is as follows:

(Actual Variable Overhead Cost) – (Actual Output x Variable Overhead rate per unit)

Or

(Actual Variable Overhead Cost) – (Std. hours for actual output x Std. Variable overhead rate per hour)

(3) Fixed Overhead Variance:

This variance indicates the difference between the actual fixed overhead cost and standard fixed overhead cost allowed for the actual output.

This variance is found by using the following formula:

Fixed Overhead Variance =
(Actual Fixed Overhead Cost – Fixed Overhead absorbed)

(Actual Fixed Overhead Cost) –
(Actual Output x Fixed
Overhead rate per unit)

Or

(Actual fixed overhead cost) –
(Std. hours for actual output x
Std. fixed overhead rate per
hour)

(4) Variable Overhead Expenditure (Spending or Budget) Variance:

This variance indicates the difference between actual variable overhead and budgeted variable overhead based on actual hours worked.

**This variance is found by
using the following:**

(Actual variable overhead –
Budgeted variable overhead)

(5) Variable Overhead Efficiency Variance:

This variance is like labour efficiency variance and arises when actual hours worked differ from standard hours required for good units produced. The actual quantity produced and standard quantity fixed might be different because of higher or lower efficiency of workers employed in the manufacturing of goods.

This variance is found by using the following formula:

(Actual hours – Standard hours for actual output) x Standard variable overhead rate per hour

(6) Fixed Overhead Expenditure (Spending or Budget) Variance:

This variance indicates the difference between actual fixed overhead and budgeted fixed overhead.

The formula for computing this variance is as follows:

(Actual fixed overhead –
Budgeted fixed overhead)

If actual fixed overhead costs are greater than budgeted fixed costs, an unfavourable variance results because actual costs exceed the budget. Actual overhead costs seldom equal budgeted costs because property tax rates may change, insurance premiums may increase or equipment changes may affect depreciation rates. As an illustration, assume that a company completed 36,000 units (equal to 18,000 standard

company completed 36,000 units (equal to 18,000 standard production hours) in 18,500 hours at the recorded fixed cost of Rs 7,51,000. The standard fixed cost rate per hour is Rs 40. Therefore,

Expenditure variance =
(Actual fixed overhead costs –
Budgeted fixed overhead
costs)

That is, = 7,51,000 – (18,500 x
40)

= 7,51,000 – 7,40,000

= Rs 11,000 (Unfavourable)

The expenditure or budget variance provides management with information which helps in controlling costs. The budget variance is usually prepared on a departmental basis and the factors that cause the budget variances are, therefore, controllable by departmental managers.

(7) Fixed Overhead

Volume Variance:

Volume variance relates to only fixed overhead. This variance arises due to the difference between the standard fixed overhead cost allowed (absorbed) for the actual output and the budgeted fixed overhead based on standard hours allowed for actual output achieved during the period. The variance shows the over-or-under-absorption of fixed overheads during a particular period. If the actual output is more than the standard output, there is over-absorption and variance is favourable. If actual output is less than the standard output, the volume variance is unfavourable.

The formula for computing this variance is as follows:

(Budgeted fixed overhead applied to actual output – Budgeted fixed overhead based on standard hours allowed for actual output)

Or

(Actual production – Budgeted production) x Std. fixed overhead rate per unit

Two-way, Three-way and Four-way Variance Analysis:

The above overhead variances are also classified as Two-way, Three-way and Four-way variance.

The different variances under these categories are listed below:

**(A) Two-way Variance
Analysis:**

(A) Two-way Variance

Analysis:

The two-way analysis computes two variances budget variance (sometimes called flexible budget or controllable variance) and volume variance, which means:

(i) Budget variance = Variable spending variance + Fixed spending (budget) Variance + Variable efficiency variance

(ii) Volume variance = Fixed volume variance

(B) Three -Way Variance

Analysis:

The three-way analysis computes three variances spending, efficiency and volume variances. Therefore,

(i) Spending variance = Variable spending variance + Fixed spending (budget) variance

(ii) Efficiency variance =
Variable efficiency variance

(iii) Volume variance = Fixed
volume variance

(C) Four-way Variance

Analysis:

The four-way analysis

includes:

(i) Variable spending variance

(ii) Fixed spending (budget)
variance

(iii) Variable efficiency
variance

(iv) Fixed volume variance.