

Unit 3 – STANDARD COSTING

INTRODUCTION

On the basis of the time period for which cost data is available or ascertainable, cost ascertainment can be made using two types of systems, viz.,

- a) Historical Costing
- b) Standard Costing

HISTORICAL COSTING

Historical costing is the ascertainment and recording of actual costs. They serve only one purpose i.e., cost ascertainment. When a historical cost figures are carefully analyzed, they may be useful in rectifying past results. They however, fail as a managerial tool for cost control. The limitations of historical costing are:

- i) Historical costs can be known only after the production of the product or rendering of services or after the completion of a given period of time. On account of delay in availability of cost information it is not helpful for cost control. It just aids post-mortem analysis.
- ii) Historical costs are very expensive to compute. The larger the activities involve, the higher the documentation and clerical labour involved and as a result, the ascertaining cost will be high.
- iii) Historical costs vary from period to period and hence do not form an appropriate basis for decision making.
- iv) Historical costing indicates only the actual cost. Only actual cost is not sufficient for measuring efficiency. Hence, it is not helpful in measuring efficiency of the system or product or services.

These limitations have necessitated the adoption of standard costing.

STANDARD COST

Standard Cost, according to Chartered Institute of Management Accountants (CIMA), London, “is the pre-determined cost based on technical estimates for materials, labour and overhead for a select period of time for prescribed set of working conditions.

Standard cost is a pre-determined cost, which determines what each product or service should cost under given circumstances. It is the pre-determined operating cost calculated from the management’s standards of efficient operation and the relevant necessary expenditure.

STANDARD COSTING

According to CIMA, London, “Standard Costing is the technique or system of preparation of Standard Costs and applying them to measure the variations from actual costs and analyzing the courses of variations with a view to maintain maximum efficiency in production”.

It is the technique of cost accounting, which compares the standard cost of each product or service with the actual costs, to determine the efficiency of the operations so that any remedial action may be taken immediately.

Standard Costing involves:

- a) Setting of standard costs
- b) Ascertainment of actual costs
- c) Comparison of standard costs and actual costs and identification of variance
- d) Carrying out variance analysis and

- e) Reporting the analysis result to the management, for taking corrective actions and making appropriate decisions.

OBJECTIVES OF STANDARD COSTING

1. To provide a formal basis for assessing performance and efficiency
2. To control costs by establishing standards and analysis of variance
3. To enable the principle of management by exception to be practiced at the detailed, operational level.
4. To assist in setting budgets
5. The standard costs are readily available substitutes for actual average unit cost and can be used for stock and work-in-progress valuation, profit planning and decision making and as a basis of pricing where cost plus systems are used.
6. To assist in assigning responsibility for non standard performance in order to correct deficiencies or to capitalize on benefits
7. To motivate staff and management
8. To provide a basis for estimating
9. To provide guidance on possible ways of improving performance

ADVANTAGES OF STANDARD COSTING

1. It can be used in formulating production and price policies in advance.
2. It provide basis for incentive schemes to employees, particularly the direct labour force
3. It proves a common base or denominator for comparison between one period and another
4. It proves a stable product cost per unit.
5. It helps in business planning and budgeting
6. The system enables effective delegation of authority and responsibility
7. It proves faster reporting of operating data
8. The cost of accounting can be minimized with the implementation of this system
9. It makes the process of cost audit and cost control simple and effective
10. It brings a sense of cost consciousness in the entire organization.

DISADVANTAGES OF STANDARD COSTING

1. It needs technically skilled and well trained staff. Organizations must spend a huge amount on training employees and setting up the requisite systems. On account of this installation of a standard costing system becomes an expensive affair.
2. In the present dynamic business environment, the standards set may not hold good for long term. Revising standards frequently may lead to more confusion and may defeat the purpose of standard costing
3. This system may not be helpful in small organizations and entities, which deal with non-standardized products.

VARIANCE ANALYSIS

The difference between the standard cost and the actual cost is known as cost variance. If actual cost is less than the standard cost, the variance is favorable. If the actual cost is more than the standard cost, the variance is unfavorable. A favorable variance indicates efficiency, while an unfavorable one denotes inefficiency.

The term variance analysis thus, may be defined as ‘the resolution into constituent parts and the explanation of variances’.

Cost variance is the difference between the standard cost and the comparable actual cost incurred during a period. Variances are computed under each element of cost for which standards have been established.

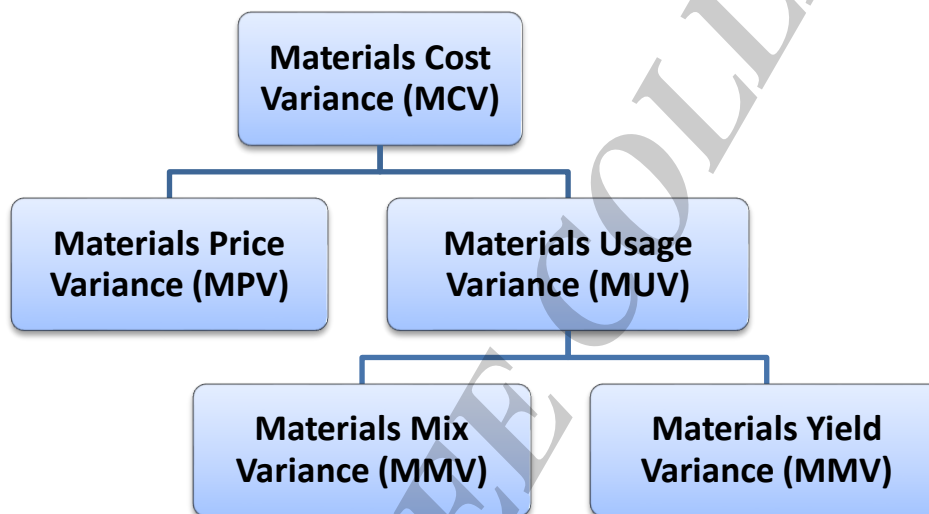
TYPES OF VARIANCES

There are three principal variances:

- I) **Material Cost Variance:** the difference between the standard costs of direct materials specified for the output achieved and the actual cost of direct material used.
- II) **Labour Cost Variance:** the difference between the standard direct wages specified for the activity achieved and the actual direct wages paid.
- III) **Overhead Cost Variance:** the difference between the standard cost of overheads absorbed in the output achieved and the actual overhead cost incurred.

MATERIAL COST VARIANCE

Material cost variance is the portion of total cost variance which is due to the difference between the standard cost of material specified for the actual production and the actual cost of materials used.



$$\text{Material Cost Variance} = (\text{Standard Quantity} \times \text{Standard Price}) - (\text{Actual Quantity} \times \text{Actual Price})$$

Material Cost Variance can be classified into two types, namely

- a) Material Price Variance (MPV)
- b) Material Usage Variance (MUV)

Material Price Variance

It is that portion of material cost variance which is due to the difference between the standard prices specified and the actual price paid. This variance represents the excess cost or saving resulting from the purchase of direct materials at prices above or below the standard prices set for materials.

It is the difference between standard and actual prices materials used, multiplied by actual quantity. The formula for calculating this variance as under:

$$\text{Material Price Variance} = \text{Actual Quantity} (\text{Standard Price} - \text{Actual Price})$$

Material Usage Variance

It is also known as Material Quantity Variance. Material Usage Variance is that portion of material cost variance which is due to the difference between the

standard quantity specified and the actual quantity used. In other words, this is the difference between standard and actual quantity of materials used multiplied by the standard price.

$$\text{Material Usage Variance} = \text{Standard Price} (\text{Standard Quantity} - \text{Actual Quantity})$$

Material Mix Variance

It is that part of material usage variance is due using a mixture which does not comply with the pre-determined standard mixture. It is “that portion of material usage variance which is due to the difference between standard and the actual composition of a mixture.

This variance arises in industries like chemicals, rubber etc., where definite proportion of different raw materials are mixed to get a product. Deviations from the standard mix may be due to general shortage and non-purchase of materials at proper time.

$$\text{Material Mix Variance} = \text{Standard Cost of Standard Mix} - \text{Standard Cost of Actual Mix}$$

Or

$$\text{Material Mix Variance} = \text{Standard Cost of Revised Standard Mix} - \text{Standard}$$

Material Yield Variance

This is also a sub variance of material usage variance. The variance arises when actual yield obtained differs from the standard yield obtained. It may be defined as “the difference between the standard yield specified and the actual yield obtained”.

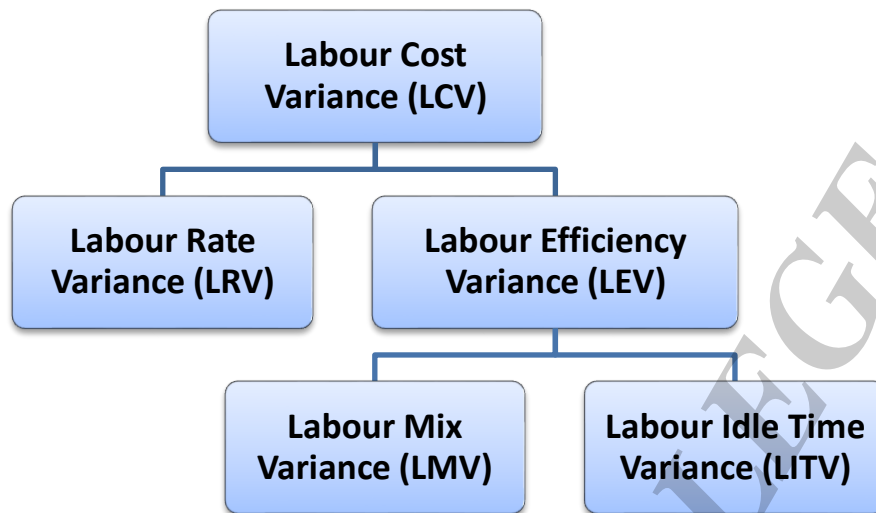
$$\text{Material Yield Variance} = \text{Standard Rate} (\text{Actual Yield} - \text{Standard Yield})$$

$$\text{Standard Rate} = \frac{\text{Standard Cost of Standard Mix}}{\text{Standard Yield}}$$

LABOUR COST VARIANCE (LCV)

Labour Cost Variance is “that portion of total cost variance which is due to the difference between standard wages specified and the actual wages paid”. In other words, this is the difference between actual and standard wages.

$$\text{Labour Cost Variance} = (\text{Standard Hour} \times \text{Standard Rate}) - (\text{Actual Hour} \times \text{Actual Rate})$$



Labour Rate Variance (LRV)

Wage rate variance is that portion of the labor cost variance which is due to the difference between the standard rate specified and the actual rate paid. In other words, this is the difference between actual and standard rates of wages, multiplied by actual hours.

$$\text{Labour Rate Variance} = \text{Actual Hours} (\text{Standard Rate} - \text{Actual Rate})$$

Labour Efficiency Variance (LEV)

This is that portion of labour cost variance which is due to the difference between the standard hours specified and the actual hours expended. In other words, this is the difference between the actual and the standard hours multiplied by standard wage rate.

$$\text{Labour Efficiency Variance} = \text{Standard Rate} (\text{Standard Hours} - \text{Actual Hours})$$

Labour Mix Variance (LMV)

This variance is similar to material mix variance. It may be calculated to reveal the management how much of the wages variance is due to the change in the composition of labour force. Changes in the composition of a gang may arise due to shortage of a particular grade of labour.

$$\text{Labour Mix Variance} = \text{Standard Cost of Standard Mix} - \text{Standard Cost of Actual Mix}$$

Or

$$\text{Labour Mix Variance} = \text{Standard Cost of Revised Standard Mix} - \text{Standard Cost of Actual Mix}$$

Labour Idle Time Variance (LITV)

Idle time occurs when there arises a difference between the time for which workers are paid and that which they actually expend upon production. It is important that occurrence of idle time should be brought to the notice of management and the cost of idle time must be charged to an idle time variance account.

$$\text{Labour Idle Time Variance} = \text{Idle Hours} \times \text{Standard Rate}$$

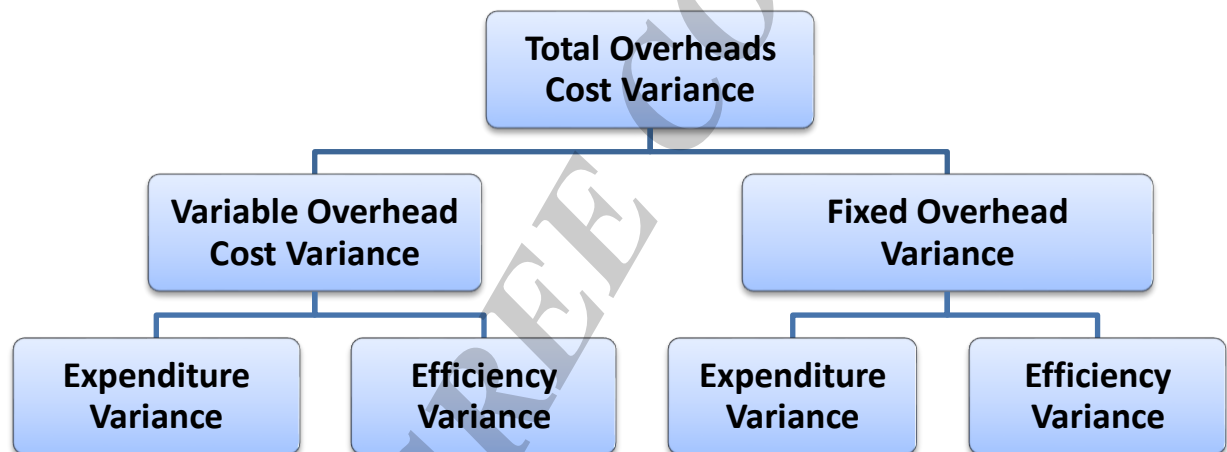
OVERHEAD VARIANCE

Overhead is the aggregate of indirect material cost, indirect wages (indirect labour cost) and indirect expenses. Thus, overhead costs are indirect costs and are important for the management for the purpose of cost control. Under cost accounting, overhead costs are absorbed by cost units on some suitable basis. Under standard costing, overhead rates are predetermined in terms of either labour hours (per hour) or production units (per unit of output).

$$\text{Overhead Cost Variance} = (\text{Actual Output} \times \text{Standard Overhead Rate per unit}) - \text{Actual overhead cost}$$

Or

$$\text{Overhead Cost Variance} = (\text{Standard Hours for Actual Output} \times \text{Standard Overhead Rate per hour}) - \text{Actual Overhead Cost}$$



Variable Overhead Cost Variance (VOCV)

Variable overheads vary directly with the volume of output and hence, the standard variable overheads vary directly with the volume of output and hence, the standard variable overhead rate remains uniform. Therefore, computation of variable overhead variance, also known as variable overhead cost variance parallels the material and labour cost variances.

$$\text{VOCV} = (\text{Actual Output} \times \text{Standard Variable Overhead Rate per Unit}) - \text{Actual Variable Overheads}$$

Fixed Overhead Variance

This variance is calculated as

$$\text{Fixed overhead Variance} = (\text{Actual Output} \times \text{Standard Overheads Rate}) - \text{Actual Fixed Overheads}$$