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STANDARD COSTING

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Overview

Standard costing is the practice of substituting an expected cost for an actual cost in the accounting records. Subsequently, variances are recorded to show the difference between the expected and actual costs. This approach represents a simplified alternative to cost layering systems, such as the FIFO and LIFO methods, where large amounts of historical cost information must be maintained for inventory items held in stock.

Standard costing involves the creation of estimated (i.e., standard) costs for some or all activities within a company. The core reason for using standard costs is that there are a number of applications where it is too time-consuming to collect actual costs, so standard costs are used as a close approximation to actual costs.

Since standard costs are usually slightly different from actual costs, the cost accountant periodically calculates variances that break out differences caused by such factors as labor rate changes and the cost of materials. The cost accountant may periodically change the standard costs to bring them into closer alignment with actual costs.

Standard Cost

The term Standard cost refers to the cost that may be incurred for production of any goods or services under normal or anticipated conditions and in efficient manner. The primary benefit of a standard cost system is that it allows for comparison of standard versus actual costs. Differences are referred to as standard cost variances and should be investigated if significant.

Standard Costing

The standard costing is a very sophisticated technique used in different concerns as the means of cost ascertainment, cost reduction and cost control on pre-determined or estimated basis for the goods or services to be produced in future. Standard costing is the establishment of cost

standards for activities and their periodic analysis to determine the reasons for any variances. Standard costing is a tool that helps management account in controlling costs. Standard costing system prescribes expected performances. The actual performance is measured and compared with the standard to find out any deviation. Top management of every organization is concerned with the overall performance of the organization. The management also interested to know the performance of the different departmental managers, like purchase manager, sales manager and production manager. Based on the findings of the standard costing, management takes necessary remedial actions for the improvement of the performance of the whole concern.

Variance Analysis

The comparison of actual costs with standard costs is called variance analysis and it is vital for controlling costs and identifying ways for improving efficiency and profitability. At regular intervals, actual cost of materials, labour and overheads are compared with the standard cost of respective elements. Deviations of actual cost from standard cost are investigated and reported to the management. In the language of cost accounting, these deviations are usually known as variances. If actual cost exceeds the standard costs, it is an unfavourable variance. On the other hand, if actual cost is less than the standard cost, it is a favourable variance. The act of computing and interpreting variances is called Variance Analysis.

Variance analysis is usually conducted for:

1. Direct material costs (price and quantity variances);
2. Direct labor costs (wage rate and efficiency variances); and
3. Overhead costs.

Need of Standard Costing

1. **Future cost estimation:** Standard Costs are determined after considering all the possibilities that may arise in the future. It also helps in deciding whether a particular project is to be undertaken, by determining its profitability.
2. **Performance check:** Standard cost acts as targets to the cost centers which should not be transcended. In such a situation, these targets are helpful in checking the performance through comparison with the actual results.
3. **Budgeting:** The standard costs are used to prepare budgets, and evaluate the performance of the executive staff on the basis of these budgets.

The basic objective of standard costing is to measure the differences between standard costs and actual costs, and analyzing them to maintain the productivity of the organization.

Advantages of Standard Costing

Though most companies do not use standard costing in its original application of calculating the cost of ending inventory, it is still useful for a number of other applications. In most cases, users are probably not even aware that they are using standard costing, only that they are using an approximation of actual costs. Here are some potential uses:

1. **Budgeting:** A budget is always composed of standard costs, since it would be impossible to include in it the exact actual cost of an item on the day the budget is finalized. Also, since a key application of the budget is to compare it to actual results in subsequent periods, the standards used within it continue to appear in financial reports through the budget period.
2. **Inventory costing:** It is extremely easy to print a report showing the period-end inventory balances (if you are using a perpetual inventory system), multiply it by the standard cost of each item, and instantly generate an ending inventory valuation. The result does not exactly match the actual cost of inventory, but it is close. However, it may be necessary to update standard costs frequently, if actual costs are continually changing. It is easiest to update costs for the highest-dollar components of inventory on a frequent basis, and leave lower-value items for occasional cost reviews.
3. **Overhead application:** If it takes too long to aggregate actual costs into cost pools for allocation to inventory, then you may use a standard overhead application rate instead, and adjust this rate every few months to keep it close to actual costs.
4. **Price formulation:** If a company deals with custom products, then it uses standard costs to compile the projected cost of a customer's requirements, after which it adds a margin. This may be quite a complex system, where the sales department uses a database of component costs that change depending upon the unit quantity that the customer wants to order. This system may also account for changes in the company's production costs at different volume levels, since this may call for the use of longer production runs that are less expensive.
5. Standard costing can be helpful in ascertaining the profitability of the business at any level of production. Further, it is also useful in practical management functions, i.e. planning and controlling.

Nearly all companies have budgets and many use standard cost calculations to derive product prices, so it is apparent that standard costing will find some uses for the foreseeable future. In particular, standard costing provides a benchmark against which management can compare actual performance.

Problems with Standard Costing

Despite the advantages just noted for some applications of standard costing, there are substantially more situations where it is not a viable costing system. Here are some problem areas:

1. **Cost-plus contracts:** If you have a contract with a customer under which the customer pays you for your costs incurred, plus a profit (known as a cost-plus contract), then you must use actual costs, as per the terms of the contract. Standard costing is not allowed.
2. **Drives inappropriate activities:** A number of the variances reported under a standard costing system will drive management to take incorrect actions to create favorable variances. For example, they may buy raw materials in larger quantities in order to improve the purchase price variance, even though this increases the investment in inventory. Similarly, management may schedule longer production runs in order to improve the labor efficiency variance, even though it is better to produce in smaller quantities and accept less labor efficiency in exchange.
3. **Fast-paced environment:** A standard costing system assumes that costs do not change much in the near term, so that you can rely on standards for a number of months or even a year, before updating the costs. However, in an environment where product lives are short or continuous improvement is driving down costs, a standard cost may become out-of-date within a month or two.
4. **Slow feedback:** A complex system of variance calculations is an integral part of a standard costing system, which the accounting staff completes at the end of each reporting period. If the production department is focused on immediate feedback of problems for instant correction, the reporting of these variances is much too late to be useful.
5. **Unit-level information:** The variance calculations that typically accompany a standard costing report are accumulated in aggregate for a company's entire production department, and so are unable to provide information about discrepancies at a lower level, such as the individual work cell, batch, or unit.

The preceding list shows that there are many situations where standard costing is not useful, and may even result in incorrect management actions. Nonetheless, as long as you are aware of these

issues, it is usually possible to profitably adapt standard costing into some aspects of a company's operations.

Standard Cost Variances

A variance is the difference between the actual cost incurred and the standard cost against which it is measured. A variance can also be used to measure the difference between actual and expected sales. Thus, variance analysis can be used to review the performance of both revenue and expenses.

There are two basic types of variances from a standard that can arise, which are the rate variance and the volume variance. Here is more information about both types of variances:

1. **Rate variance:** A rate variance (which is also known as a price variance) is the difference between the actual price paid for something and the expected price, multiplied by the actual quantity purchased. The "rate" variance designation is most commonly applied to the labor rate variance, which involves the actual cost of direct labor in comparison to the standard cost of direct labor. The rate variance uses a different designation when applied to the purchase of materials, and may be called the purchase price variance or the material price variance.
2. **Volume variance:** A volume variance is the difference between the actual quantity sold or consumed and the budgeted amount, multiplied by the standard price or cost per unit. If the variance relates to the sale of goods, it is called the sales volume variance. If it relates to the use of direct materials, it is called the material yield variance. If the variance relates to the use of direct labor, it is called the labor efficiency variance. Finally, if the variance relates to the application of overhead, it is called the overhead efficiency variance.

Thus, variances are based on either changes in cost from the expected amount, or changes in the quantity from the expected amount. The most common variances that a cost accountant elects to report on are subdivided within the rate and volume variance categories for direct materials, direct labor, and overhead. It is also possible to report these variances for revenue.

It is not always considered practical or even necessary to calculate and report on variances, unless the resulting information can be used by management to improve the operations or lower the costs of a business. When a variance is considered to have a practical application, the cost accountant should research the reason for the variance in detail and present the results to the responsible manager, perhaps also with a suggested course of action.

Steps of Variance Analysis

1. **Establishing Standards:** First and foremost, the standards are to be set on the basis of management's estimation, wherein the production engineer anticipates the cost. In general, while fixing the standard cost, more weight is given to the past data, the current plan of production and future trends. Further, the standard is fixed in both quantity and costs.
2. **Determination of Actual Cost:** After standards are set, the actual cost for each element, i.e. material, labour and overheads is determined, from invoices, wage sheets, account books and so forth.
3. **Comparison of Actual Costs and Standard Cost:** Next step to the process, is to compare the standard cost with the actual figures, so as to ascertain the variance.
4. **Determination of Causes:** Once the comparison is done, the next step is to find out the reason for the variances, to take corrective actions and also to evaluate the overall performance.
5. **Disposition of Variances:** The last step to this process is the disposition of variances by transferring it to the costing profit and loss account.

Formula of Variances

1. Material Price Variance = (Actual Price – Standard Price) x Actual Quantity
2. Material Usage Variance = (Standard Consumption – Actual Consumption) x Standard Price;
3. Material Mix Variance = (Actual Quantity – Standard Quantity) x Standard Price of each unit of each item;
4. Material Yield Variance = (Actual Loss – Standard Loss) x Standard Yield Price.
5. Labour Cost Variance = Actual Hours x Actual Rate – Standard Hours x Standard Rate.
6. Wage Rate Variance = (Standard Rate – Actual Rate) x Actual Hours,
7. Labour Efficiency Variance = (Standard Hours – Actual Hours) x Standard Rate,
8. Idle Time Variance = Idle Hours (Abnormal) x Standard Rate,
9. Labour Mix Variance = Actual Hours At Standard Rate of Actual Group – Actual Hours at Standard Rate of Standard Group,

10. Variable Overheads Expenditure Variance = Standard Variable Overhead for Actual Quantity – Actual Variable Overhead,

11. Fixed Overheads Expenditure Variance = Standard Fixed Overheads for Budgeted Output – Actual Total Fixed Overheads,

12. Fixed Overheads Volume Variance = Budgeted Fixed Overheads – Standard Fixed Overhead on Actual Production,

Or

= (Budgeted Production in Standard Hours – Actual Production in Standard Hours) x Hourly Rate

Or

= (Budgeted Production – Actual Production) x Standard Fixed Overhead,

13. Capacity Variance = (Budgeted Capacity in Hours – Actual Hours of Working) x Hourly Rate of FO,

14. Efficiency Ratio = Standard Hours of Production/ Actual Clock Hours x 100