

UNIT V – Standard Costing & Variance Analysis

Meaning of Standard Cost

Standard costs are predetermined cost which may be used as a yardstick to measure the efficiency with which actual costs has been incurred under given circumstance. To illustrate, the amount of raw material required to produce a unit of product can be determined and the cost of that raw material estimated. This becomes the standard material input. If actual raw material usage or costs differ from the standards, the difference which is called ‘variance’ is reported to manager concerned. When size of the variance is significant, a detailed investigation will be made to determine the causes of variance

According to the chartered Institute of Management Accountants (C.I.M.A) London, “Standard cost is the predetermined cost based on technical estimates for materials, labour and overhead for a selected period of time for a prescribed set of working conditions.”

The Institute of Cost and Works Accountants defines standard costs as “Standard costs are prepared and used to clarify the final results of a business, particularly by measurement of variations of actual costs from standard costs and the analysis of the causes of variations for the purpose of maintaining efficiency of executive action.”

Thus standard costs is a predetermined which determines what each product or service ‘should be’ under given circumstances. From the above definitions we may note that standard costs are:

1. *Pre-determined cost:* Standard cost is always determined in advance and ahead of actual point of time of incurring of costs.
2. *Based on technical estimated:* Standard cost is determined only on the basis of a technical estimate and on a rational basis.
3. *For the purpose of Comparison:* The very purpose of standard cost is to aid the comparison with actual costs.
4. *Based for price fixing:* The prices are fixed in advance and hence the only variation basis is the standard cost.

Estimated Cost

Estimates are predetermined costs which are based on historical data and is often not very scientifically determined. They usually compiled from loosely gathered information and therefore, they are unsafe to use them as a tool for measuring performance. Standard costs are predetermined costs which aims at what the cost should be rather than what it will be. Both the standard costs and estimated costs are used to determine price in advance and their purpose is to control cost. But, there are certain differences between these two costs as stated below: The following are some of the important differences between standard cost and estimated cost:

Standard Cost	Estimated Cost
Standard cost emphasizes as what the cost ‘ <i>should be</i> ’ in a given set of situations.	Estimated cost emphasizes on what the cost ‘ <i>will be</i> ’.
Standard cost is based on technical estimates.	Estimated cost is based on historical data.

determined by technical experts after considering levels of efficiency and production	into consideration the historical data as the basis and adjusting it to future trends.
It is used as a devise for measuring efficiency	It cannot be used as a devise to determine efficiency. It only determines expected costs.
Standard costs serve the purpose of cost control	Estimated costs do not serve the purpose of cost control.
Standard costing is part of cost accounting process	Estimated costs are statistical in nature and may not become a part of accounting.
It is a technique developed and recognised by management and academicians	It is just an estimate and not a technique
It can be used where standard costing is in operation	It may be used in any concern operating on a historical cost system.

The system of standard costing can be used effectively to those industries which are producing standardised products and are repetitive in nature. Examples are cement industry, steel industry, sugar industry etc. The standard costing may not be suitable to jobbing industries because every job has different specifications and it will be difficult and expensive to set standard costs for every job. Thus, standard costing is not suitable in situations where a variety of different kinds of tasks are being done.

Advantages of Standard Costing:

1. **Proper Planning:** It helps to apply the principle of "Management by exception". That is, the management need not worry over those activities which proceed in tandem plans. It is only on the issues of exceptions that they have to concentrate.
2. **Efficient Cost Control:** Standard Costing is a tool for the management to gain reduction in the cost and control over it. Under this technique, differences are analyzed and responsibilities are determined.
3. **Motivational Factor:** Labour efficiency is promoted and they are destined to be cost conscious. Standards provide incentives and motivation to work with greater effort. This increases efficiency and productivity.
4. **Comparison of Forecasting and Outcome:** A target of efficiency is set for the employees and the cost consciousness is stimulated. Since the process of standard costing allow an appraisal to be made of personnel, machines and method of working, current inefficiencies come to the notice and get eliminated.
5. **Inventory Control:** Standard costing facilitates inventory control and simplifies inventory valuations. This ensures uniform pricing of stocks in the form of raw materials, work-in-progress and finished goods.
6. **Economical System:** Standard costing system is economical system from the viewpoint that it does not require detailed records. It also does not require a big staff. It results in the reduction in paper work in accounting and needs very few records. Thus, there is saving of time as well as money.
7. **Helpful in Budgeting:** Budgets are prepared on the basis of standard costing. Standards which are set up in respect of materials, labour and overheads, are helpful in preparing various budgets. For example, flexible budget, sales budget, etc.
8. **Helps Formulate Policies:** This technique is a valuable aid to the management in determining prices and formulating production policies. Standard costing equips cost estimates while planning the production of new products.
9. **Helps Distinguish Activities:** Standard costing helps in distinguishing between skilled and unskilled activities. So the skilled worker only gives pays attention to improving the activities of the unskilled workers.
10. **Eliminates Wastage:** Through fixing standard, certain waste such as material wastage, idle time, lost machine hours, etc. are reduced.

Limitations of Standard Costing:

1. **Costly System:** Because the Standard Costing requires highly skillful and competent personnel, it becomes a costly system too. For the same experts are paid high remuneration.
2. **Difficulties in Fixation of Standard:** It is always difficult to determine precise standard costs in a given situation which will coincide with actual cost when operations are over. Standard cost are determined partly by the past experience and partly by the cost projections based on advanced statistical techniques. Thus, uncertainties revolve around standards.
3. **Constraint for Service Industry:** Standard costing is applied for planning and controlling manufacturing costs. Thus, it cannot be applied in a service industry.
4. **Consistency of Standard:** because the standards of marginal costing fluctuate and vary time to time, it is difficult to always sustain and continue the same standards.
5. **Unsuitable for Non-standardised Products:** Standard costing is expensive and unsuitable for job manufacturing industries as they manufacture non standardized products such as catering, tailoring, printing, etc.
6. **Relatively Fixed Standards:** A business may not be able to keep standards up-to-date. In other words, a business may not revise standards to keep pace with the frequent changes in manufacturing conditions. Firms may avoid revising standards as it is a costly affair.
7. **Difficulties for Small Industries:** Establishment of standards and their implementation involve initial high costs. Standards have to be revised and new standards be fixed involving larger costs. Thus, small firms find it
8. expensive to operate standard costing system. This system is not fit for each type of industries.
9. **Discouragement for Workers:** Sometimes the employees and workers are discouraged when the standards are fixed at a high level. The unreal high standards may adverse by effect the morale of workers rather than working as an incentive for better efficiency.
10. **Inaccurate Diverse Results:** Inaccurate and unreliable standards cause misleading results and thus may not enjoy the confidence of the users of this system.

Objectives of Standard Costing:

1. To institute a control mechanism on all the elements of costs that affect production and sales
2. To measure different operational efficiencies and check the wastages
3. To improve the delegation of authority and generate a sense of responsibility among the employees
4. To develop a cost consciousness in the employees
5. To presume the production costs, sales and profit
6. To avail the benefits of 'Management by exception.'
7. To bring about a vivid progressive vision and sagacious decision making at each managerial level.

Preliminaries of Establishment of Standard Cost System:

The following four points are usually considered for setting up a standard cost system in a business:

- 1) Setting up cost center
- 2) Classification of Accounts
- 3) Types of Standards
- 4) Settings the Standards.

1) Setting up Cost Center: Introducing Standard Cost System is requires first of all to establish cost centers with their well-designed ambit of work. In the process there should be no ambiguity about the responsibility of each cost center so that their responsibility may be identified.

A cost center is a location; people or item of equipments for cost may be ascertained and used for the purpose of cost control.

2) Classification of Accounts: Accounts are classified in order to assist collection and analysis. To use the system of standard costing effectively, all accounts have to be classified on the basis of their functions, items of revenue nature, assets and liabilities, etc. Codes are given for each item and each account along with elements of cost with this end in view, codes may be used. A code is a symbolic representation of any particular item of information.

3) Types of Standards: Basically, there are two types of standard:

(A) Current Standard

(B) Basic Standard

(A) Current Standard: It is established for the use over a diminutive period of time and is related to current circumstances. Such a standard remains in operation for a limited period and belongs to the current conditions. These standards are revised at regular intervals. Current standard are of three types like (1) Ideal standards, (2) Expected standards, and (3) Normal standards.

(1) Ideal standards: This is a hypothetical standard which is rather not practicable to attain. This ideal is clearly unrealistic and unattainable. It pre-supposes that the performance of men, materials and machines is perfect and thus makes no allowance for the loss of time, accident, wastage of materials and any other type of waste of materials and any other type of waste or loss. Such standards have the advantage of establishing a goal which, however, is not always attainable in practice. As such it is having a little practical value.

The standard which can be attained under the most favourable condition possible.

(2) Expected or practical standards: Such standards are likely to be expected or utilized in the future period. Such standards are based on expected performance after making a reasonable allowance for unavoidable losses and other inevitable lapses from perfect efficiency. So it is most generally used standard and is best suited for cost control.

This standard can be anticipated as well as attained in future in sync with the specified budget.

- I.C.M.A.

(3) Normal standards: It is also known as 'Past Performance Standard' because it is based on the average performance in the past. It should be attainable and it provides a challenge to the staff. The aim of such a standard is to eliminate the variations in the cost which arise out of trade cycle.

The average standard can be anticipated as well as attained in a future period of time. Preferably, it should be long enough to cover one trade-cycle.

- I.C.M.A.

(B) Basic standards: This is a standard which is established for use unaltered for an indefinite time. It is similar to an index number against which all results are measured. Variances from basic standards show trends of deviations of the actual cost. However, basic standards are of no practical utility from the point of view of cost control and cost ascertainment. This standard is set on a long-term basis and seldom revised.

It is an underlying standard from which current standard can be developed.

- I.C.M.A.

4) Setting the Standard: The process of setting standard is a valuable activity in itself. The success of standard costing system depends on the reliability,

accuracy and acceptance of the standards. If standards have been properly set and maintained, they are a sound basis for determining cost for various purposes. While setting the standards, the following points should be taken into consideration: duration of use of standard, reasonable standard of performance, level of activity. For the given units standard sets for the following items are (i) direct material cost, (ii) direct wage cost, (iii) direct expense, (iv) factory variable overhead cost, (v) selling and distribution variable cost, (vi) selling price and sales margin.

• **Standards for Material:** It includes (1) Determination of standard quantity of material required, and (2) Determination of standard price per unit of material.

• **Material Quantities:** After establishing the standard quality of material, it is more important and necessary to establish the standard regarding quantity of each material. Generally, quantities are expressed in terms of kilograms, feet, units and so forth.

• **Standards for Labour:** This standard is determined with regard to the current rate of pay and any anticipated variations. It should be fixed for each grade of labour and for each operation involved. The standard hours are fixed for all categories of labour i.e., for skilled and unskilled labour. In these standards, number of hours and workers are established.

• **Material Prices:** This is a forecast of the average prices of material during the future period. This standard is quite difficult to establish because prices are regulated more by the external factors than by the company management. While setting standard prices, the past experiences, existing prices and anticipations should closely examine. Price of material in the past, current prices and fluctuating trends are the base for determining standard of price.

• **Setting for Overheads:** Setting standard for overheads is more complex than the development of material and labour standards. It is estimated for variable overheads and fixed overheads.

o **Variable Overheads:** It may be recalled that variable overhead has been defined as a cost which tends to vary directly with the volume of output. It is assumed that the overhead rate per unit is invariable, irrespective of the quantity produced, so it is necessary to calculate only a standard cost per unit or per hour.

o **Fixed Overheads:** Fixed overhead tends to be unaffected by variations in the volume of output. Therefore it is required to determine total fixed overhead for the period and budgeted production in units.

Standard Hour: Production is usually articulated in physical units such as tons, pounds, gallons, numbers, kilograms, liters, etc. When a company is manufacturing different types of products, it is almost impossible to increase the production, which cannot be expressed in the same unit.

Standard hour means a hypothetical hour, which represents the amount of work that should be performed in one hour under standard conditions.

- I.C.M.A.

Budgeting

Budgeting may be defined as the process of preparing plans for future activities of the business enterprise after considering and involving the objectives of the said organisation. This also provides process/steps of collection and preparation of data, by which deviations from the plan can be measured. This analysis helps to measure performance, cost estimation, minimizing wastage and better utilisation of resources of the organisation. Thus, budgets are prepared on the basis of future estimated production and sales in order to find out the profit in a specified period.

The objective of the standard costing and budgeting is to achieve maximum efficiency and cost control. Under both the systems actual performance is compared with predetermined standards, deviations, if any, are analysed and reported. Budgeting is essential to determine standard costs while standard costing is necessary for planning budgets. Both are complimentary in nature and in determining the results. Besides similarities there are certain differences between standard costing and budgeting which are as follows:

VARIANCE ANALYSIS

Definition: The process of analysis variances by sub-dividing the total variance in such a way that management can assign responsibility for off-standard performance.

Interpretation of Variances:

Each variance is interpreted accordingly and by “*interpretation*” we mean making a decision whether the variance is favourably or unfavorable and attaching responsibility.

- When actual cost is less than the standard cost, the difference is considered “**FAVOURABLE**” or **CREDIT VARIANCE**.
- On the other hand when the actual cost exceeds the standard cost, the difference is termed as **UNFAVOURABLE** or a **DEBIT VARIANCE**.
- Ordinarily, a favourable variance is a sign of efficiency of the organisation whereas an unfavourable variance is a sign of inefficiency.

Controllable and Uncontrolled Variances

The variance may be classified as Controllable and Uncontrollable. Variance is said to be controllable if it is identified as the primary responsibility of a particular person or department. The excessive use of materials or labour hours than the standards can be attributable to a particular person.

When the variations are due to the factors beyond the control of the concerned person or department, it is said to be uncontrolled. The rise in prices of materials, increase in wage rates, Govt. restrictions etc., are the examples of uncontrollable variance. These factors are not within the control of the management and the responsibility of the variance cannot be assigned to any particular person or division.

The division of variance into controllable and uncontrollable is important from the view point of management as it can place more emphasis on controllable variance and thus facilitates to the principle of management by exception.

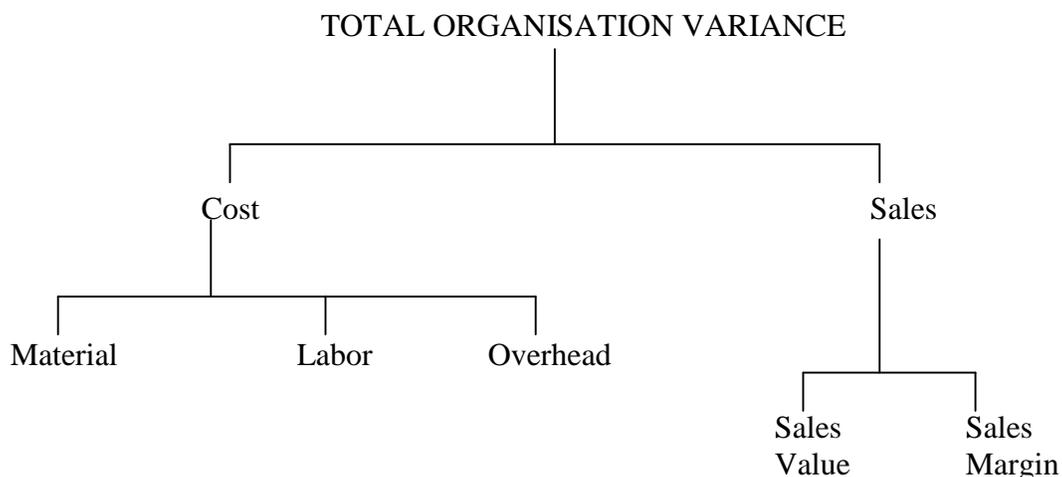
Classification of Variances

Variances may be classified into two categories viz.,

1. Cost variances and

2. Sales variances.

The cost variance may again be sub-divided into variances for each element of cost as shown in the following chart:



COST VARIANCES:

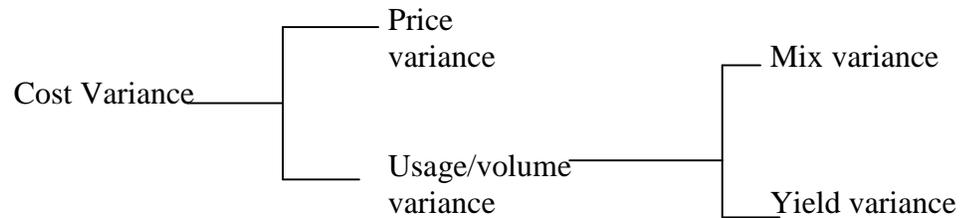
In the manufacturing function, cost variances are classified on the basis of the elements of cost viz. material, labor and expense variances.

In cost analysis the standard cost of each element of cost is reconciled with actual cost and difference is called cost variance or total variance. The cost variance has two components:

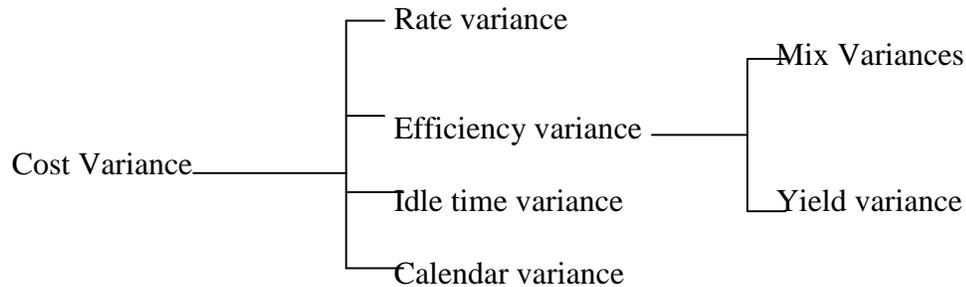
- (i) **Price Variance; and**
- (ii) **Volume variance.**

Classification of Cost Variances:

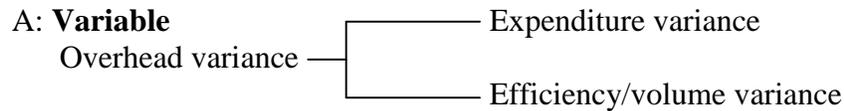
(i) **Material Variance:**



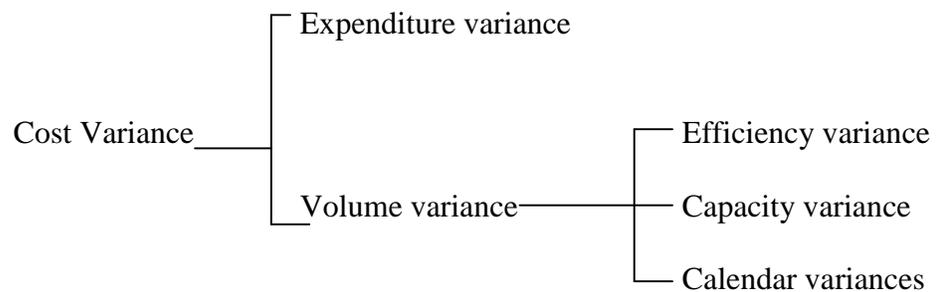
(ii) **Labour Variances:**



(iii) **Overhead Variances**



B: Fixed Overhead Variance



DIRECT MATERIAL VARIANCES

Illustration:

(i) From the following particular, calculate material variances

Standard Mix	Rs.	Actual Mix	Rs.
A: 55kgs at Rs.2.00	110	60kgs at Rs.2.25	135
B: 45kgs at Rs.4.00	180	40kgs at Rs.3.50	140
100 kgs	290	100 kgs	275

(ii) Using the information as in (i) and further assuming that the standard output and actual output are 90 units and 81 units respectively, calculate the material variances.

SOLUTION:

Calculation of Input Variances:

A.

1. Cost Variance = Actual cost - Standard cost
= Rs.275 - 290 = Rs.15F
2. Price Variance = Actual Qty. (Actual Price - Standard Price)
= A: 60 (2.25 - 2.00) = Rs.15 (A)
= B: 40 (3.50 - 4.00) = Rs.20 (F)
5 (F)
3. Usage Variance = Std. Price (Actual Qty. - Std. Qty.)
= A: 2.00 (60 - 55) = Rs.10 (A)
= B: 4.00 (40 - 45) = Rs. 20 (F)
10 (F)
4. Material Mix Variance = Std. Price (Actual Qty. - Revised Std. Qty.)
= A: 2.00 (60 - $55^* \times \frac{100}{100}$) = Rs.10 (A)
= B: 4.00 (40 - $45 \times \frac{100}{100}$) = Rs.20 (F)
10 (F)

*Revised Standard Qty. for actual output = Std. Qty used x $\frac{\text{Total in actual mix}}{\text{Total Qty in Std. Mix}}$

Verification:

$$\begin{aligned} \text{Cost Variance} &= \text{Price Variance} + \text{Use Variance} \\ &= \text{Price variance} + \text{Mix variance} + \text{Yield Variance} \\ 15 &= 5 + 10 + 0 \\ &= \underline{15} \end{aligned}$$

B: **SOLUTION**

Calculation of Output variances:

1. Cost variance = Actual cost of output - Standard cost of output
= Rs.(275 - $\frac{81^*}{90} \times 290$) = Rs.14

*Actual output x Total Qty in std. mix
Std. output

$$\begin{aligned}
 SC &= \text{Std. Hours} \times \text{Std. Rate per hour} \\
 &= 200 \times 40 \times 50 \\
 &= \text{Rs.4 000}
 \end{aligned}$$

$$\begin{aligned}
 AC \quad (i) &= 190 \text{ employees for 40 hours at Rs.}.50 \\
 &= \text{Rs.3 800}
 \end{aligned}$$

$$\begin{aligned}
 (ii) &= 6 \text{ employees for 40 hours at Rs.}.45 \\
 &= \text{Rs. 108}
 \end{aligned}$$

$$\begin{aligned}
 (iii) &= 4 \text{ employees for 40 hours at Rs.}.56 \\
 &= \text{Rs.89.60}
 \end{aligned}$$

Total Actual Cost = Rs. 3 997.60

2. Rate Variance

$$= \text{Actual Hours Paid (Actual Rate – Std. rate)}$$

$$\begin{aligned}
 (i) &= 190 \text{ employees} \times 40 \text{ Hrs} \times (.50 - .50) = 0 \\
 (ii) &= 6 \text{ employees} \times 40 \text{ Hrs} \times (.45 - .50) = \text{Rs.12 (F)} \\
 (iii) &= 4 \text{ employees} \times 40 \text{ Hrs} \times (.56 - .50) = \text{Rs.9.60 (A)} \\
 \text{Total} &= \text{Rs.2.40 (F)}
 \end{aligned}$$

3. Efficiency Variance

$$= \text{Std. rate (Actual Hours worked – Std. Hours)}$$

$$= .50 (7 800 - 8 000) = \text{Rs.100 (F)}$$

Workings: AH – worked = $200 \times 39 = 7 800$ Hours

4. Idle Time variance = Idle hours x Std. rate per hour

$$= 200 \times 1 \text{ hours} \times .50 = \text{Rs.100 (A)}$$

Verification:

$$\begin{aligned}
 CV &= R.V + \text{Eff. V} + \text{ITV} \\
 &= 2.4 (F) + 100 (F) + 100 (A) \\
 &= 2.40 F
 \end{aligned}$$

SALES VARIANCE

Although a discussion on standard costing should be limited to cost variances, it is considered incomplete unless sales variances are appended with it as a part of comprehensive information presented to the Management.

- (i) Turnover method or Sales Value; and
- (ii) Profit / Sales Margin Method

In the *sales value method*, variances are calculated on the basis *of the figure of the pre-determined sales* and *actual sales* whereas in *sales margin method*, calculation of variances is done on the basis of the figures of *predetermined profit* and *actual profit*.

As the first method fails to measure the effect/impact of deviations of actual sales from planned sales, the management is usually interested in the sales margin approach. This is to say *the management is usually interested in knowing to what extent actual sales margin differed from budgeted sales margin – and not on why budgeted sales differed from actual sales, therefore sales margin approach is preferable.*

SALES MARGIN APPROACH

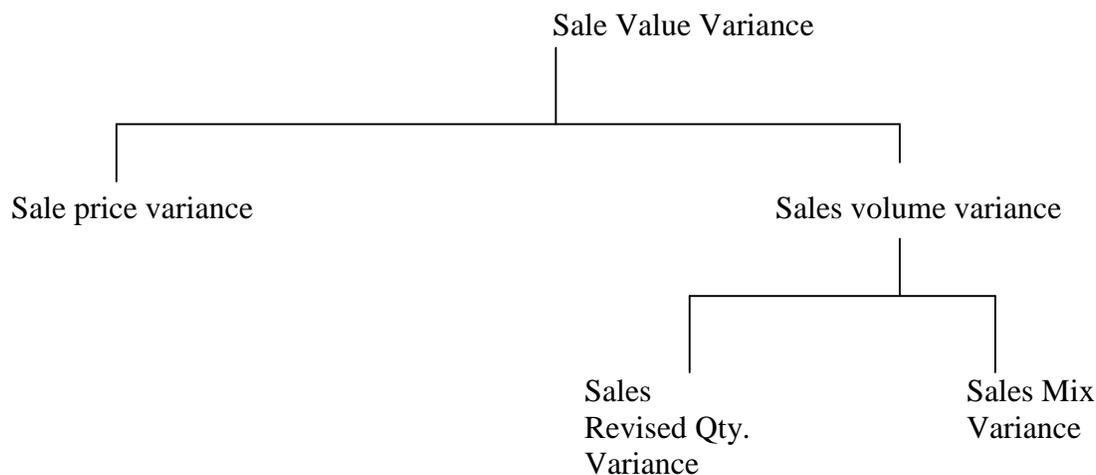


Illustration:

During the first quarter of 2001, Meccer Ltd's sales was budgeted to be 9 000 units but the actual sales turned out to be 10 000 units. You are required to analyze this information and provide the information as indicated below.

	Actual	Budget	Difference
	Rs.	Rs.	Rs.
Sales	12 000	9 000	3 000
Cost of sales	<u>8 000</u>	<u>6 300</u>	<u>1 700</u>
Gross Profit	<u>4 000</u>	<u>2 700</u>	<u>1 300</u>
Selling Price per unit	1.20	1.00	-
Cost Price per unit	0.80	0.70	

Required:

Calculate the following:

- (i) Sales price variance
- (ii) Sales quantity variance
- (iii) Cost price variance
- (iv) Cost-quantity variance
- (v) Total Gross Profit variance.

SOLUTION

$$\begin{aligned}
 1. \quad \text{Selling Price Variance} &= (\text{AP} - \text{SP}) \times \text{AQ} \\
 \text{AP} - \text{Actual Price} &= (1.2 - 1.00) \times 10\,000 \\
 \text{SP} - \text{Standard Price} & \\
 \text{AQ} - \text{Actual Quantity} &= \text{Rs.}2\,000 \text{ (F)}
 \end{aligned}$$

This is the impact of price difference between the standard price and the actual price on the actual quantity sold.

$$\begin{aligned}
 2. \quad \text{Sales Quantity Variance} &= (\text{AQ} - \text{SQ}) \times \text{SP} \\
 &= (10\,000 - 9\,000) \times 1.00 \\
 &= \text{Rs.}1\,000 \text{ (F)}
 \end{aligned}$$

This is the impact of the quantity difference on the standard price.

$$\begin{aligned}
 3. \quad \text{Cost Price Variance} &= (\text{AC} - \text{SC}) \times \text{AQ} \\
 \text{AC} - \text{Actual Cost} &= (.80 - .70) \times 10\,000 \\
 \text{SC} - \text{Standard Cost} &= \text{Rs.}1\,000 \text{ (A)}
 \end{aligned}$$

This is the impact of the difference between the standard cost of sales and the actual cost of sales on the actual quantity sold.

$$\begin{aligned}
 4. \quad \text{Volume variance} &= (\text{AQ} - \text{SQ}) \times \text{SC} \\
 \text{(Cost quantity variance)} &= (10\,000 - 9\,000) \times .70 \\
 &= \text{Rs.}700 \text{ (A)}
 \end{aligned}$$

This is the impact of the difference between the actual volume and the budgeted volume on the standard cost of sales.

$$\begin{aligned}
 5. \quad \text{Total Gross Profit Variance} &= \text{Total of the individual variances} \\
 &= \text{Rs.}2\,000 \text{ (F)} + 1\,000 \text{ (F)} + 1\,000 \text{ (A)} + 700 \text{ (A)} \\
 &= \text{Rs.}1\,300 \text{ (F)}
 \end{aligned}$$

PROBLEMS IN APPLICATION OF STANDARD COSTS:

It goes without saying that standard costs can be used in almost every sphere of management and in conjunction with almost all the different costing systems.

Reconciliation of actual costs with standard costs

A variance exists when the actual situation differs from the standard or budgeted projection. Therefore it is clear that the total of all the variance must be equal to the net difference between the standards (budgeted profit) that was set and the actual performance achieved (actual profit). The total of all variances put together must be equal to the difference between actual and budgeted costs.

Illustration:

The following information was taken from the books of Stab. Ltd which manufactures only one type of product

	Budgeted	Actual
Opening stock	-	-
Closing stock	-	-
Units manufactured	5 600	5 000
Materials used (kg)	28 000	26 000
Labours hours	56 000	55 000
Materials Purchased (Rs.)	140 000	133 000
Wages (Rs.)	168 000	170 500
Variable Manufacturing overheads (Rs.)	28 000	26 000
Sales (Rs.)	672 000	605 000
Fixed Manufacturing overheads (Rs.)	84 000	94 000

Required:

- Calculate the budgeted and the actual net profit.
- Calculate the necessary variances to reconcile the budgeted and actual net profit.
- Reconcile the net profit as calculated in (i) above.

SOLUTION

Because there was no opening and closing stock all the products manufactured were sold. Further the material usage was equivalent to the material purchases.

(i) Income statement:

		Budgeted Rs.	Actual Rs.
Sales		672 000	605 000
Less: Production costs			
Material	140 000		133 000
Labour	168 000		170 500
Overheads:			
Variable	28 000		26 000
Fixed	<u>84 000</u>	<u>420 000</u>	<u>94 000</u>
Net Profit		<u>252 000</u>	<u>181 500</u>

(ii) Calculations:

Standard material Quantities and hours per unit of finished product:

$$\begin{aligned} \text{Material: } & 28\,000 \text{ kg}/5600 = 5\text{kg} \\ \text{Hours: } & 56\,000 \text{ hrs}/5600 = 10 \text{ hrs} \end{aligned}$$

$$\begin{aligned} \text{Standard Material price} &= \frac{140\,000}{28\,000} \\ &= \text{Rs.5} \end{aligned}$$

$$\begin{aligned} \text{Labour standard rate} &= \frac{168\,000}{56\,000} \\ &= \text{Rs.3} \end{aligned}$$

$$\begin{aligned} \text{Overheads:} & \\ \quad \text{Std. Variable rate} &= \frac{28\,000}{56\,000} \\ &= \text{Rs. 5} \end{aligned}$$

$$\begin{aligned} \text{Std. Fixed rate} &= \frac{84\,000}{56\,000} \\ &= \text{Rs.1.5} \end{aligned}$$

Standard Cost Per finished Product

	Rs.
Direct Material 5kg x Rs.5	25
Direct Labour 10 hrs x Rs.3	30
Overheads 10 hrs X Rs.2	<u>20</u>
	<u>75</u>

Standard Profit margin per finished product:

	Rs.
Sales (672 000/56 000)	120
Costs	<u>75</u>
Income	<u>45</u>

VARIANCES

	Favorable	Adverse
<u>Materials</u>	Rs.	Rs.
Price AQ (AP – SP) 133 000 – (5 x 26 000)		3 000
Quantity SP (AQ – SQ) (5 x 26 000 – 5 000 x 5 x 5)		5 000
<u>Labour:</u>		
Labor Rate Variance: AT (AR – SR) (Rs.170 5000 - Rs.3 x 55 000)		5 500
Efficiency SR (AT – ST) (55 000 x Rs.3 – 5 000 x 10 x Rs.3)		15 000
<u>Overheads: variable:</u>		
Overhead Rate Variance: AT (AR – SR); 26 000 – (Rs..5 x 55 000)	1 500	
Efficiency SR (AT – ST) 0.5 x (55 000 – (5 000 x 10)		2 500
Fixed:		
Expenditure Variance: (Actual Amount – Budgeted Amount) 94 000 – 84 000		10 000
Volume Variance:		

84 000 – (5 000 x 10 x 1.5)

9 000

Sales Variances:

(i.)	Price Variance: AQ (AP – SP)		
	605 000 – (Rs.120 x 5 000)	5 000	
(ii.)	Volume Variance:		
	SP (AQ – BQ)		
	Rs.45 (5 000 – 5 600)		27 000
		<u>6 500</u>	<u>77 000</u>
(iii)	Reconciliation:	Rs.	
	Budgeted Profit		
		252 000	
	Favorable variances	6 500	
	Adverse Variances	<u>(77 000)</u>	
	Actual Profit	<u>181 500</u>	

Setting of standards:

A standard is an ideal which is anticipated and can be attained over a future period of time, normally in the next accounting year. The cost accountant, departmental heads, foremen and technical experts should work together in setting standards. Just like a budget committee, a committee should be formed to set standards.

TYPES OF STANDARDS

Broadly the standards can be divided into three categories:

- (i) Current standards;
- (ii) Basic standard; and
- (iii) Normal standard

Current Standards:

Fixed on the basis of current conditions and remain in operation for a limited period in the sense that they are revised at regular intervals. Current standards are of two types:

- (a) **Ideal standards:**
This standard reflects the level of attainment on the basis of maximum possible level of efficiency which may never be achieved.
- (b) **Expected (or Attainable) standards.**
Reflects a level of attainment based on a high level of efficiency which is capable of being achieved. It is best suited for control point of view because this standard reveals real variances from the attainable performance levels.

Basic standard:

The standard is established and operated without revision for a number of years to help forward planning. It is not suitable for cost control purposes.

Normal standard

This standard is meant to smooth out fluctuations caused by seasonal and cyclical changes. It is difficult to follow such standards in practice because it is not possible to forecast performance with adequate accuracy for a long period of time. As such, normal standards have little relevance *for planning and cost control.*

Similarities Between Budgeting And Standard Costing

The following are the points of similarity between standard cost and budget cost:

	Standard Costing	Budgeting Cost
Predetermined cost	Standard costs are predetermined costs fixed according to estimates.	Budget costs are also estimated costs.
Advance cost	Standard costs are estimated in advance, these are compared to actual costs.	These costs are also estimated in advance and these are compared to actual costs.
Both aim at cost control	Standard cost is designed to control costs and bring efficiency.	Budgeting costs also aim at cost control and assure addition in employee's efficiency.
Cost comparison	Standard costs are designed well in advance and compared to actual costs.	These advance estimated costs and compared to actual costs.
Reporting	Standard costs are periodically reported to top management	Budgetary costs are also reported to management periodically.
Corrective action	Standard cost lays stress on check of adverse variation and effort is made for correction.	Budgetary control lays stress on check of adverse variances.

Differences Between Standard Costing And Budgetary Costing:

Basis of difference	Standard Costing	Budgetary Costing
Base	Standard costs are predetermined or planned costs.	Budgetary costs are based on past experiences
Technique	Standard costs are based on technical estimates.	The budgetary costs are based on historical data and adjusted to the future.
Scope	The standards are set for elements of costs.	The budgets are prepared for every business activity.
Limited use	Standard costs can be used for estimation or forecasting.	Budgets are used for men, material and money.
Conditions	Standard costs are used in ideal conditions or situations.	Budgets are made and used, in own situation or situations.
Per unit	Standard costs can be calculated per unit.	Budgetary cost cannot be calculated per units.

Nature	Standards are set only for expenditure.	Budgets are compiled for both income and expenditure.
Coverage	Standard cost is not comprehensive, it is only limited to cost operations.	Budgetary cost coverage is much more than standard costs.
Parts	Standard costs cannot be in parts.	Budget can be in parts: only Cash budget