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BUDGET, BUDGETARY CONTROL, PREPARATION OF MASTER AND SUBSIDIARY BUDGET

A budget is a drawn-up plan of revenues and expenditures for certain activities for a specified period. Budget can be defined as an estimate of planned expenditure and expected resources to be utilized to meet the planned expenditure over a period of time.

A budget is defined as "a quantitative statement for a defined time which may include planned revenues, expenses, assets, liabilities and cash flow. Budget is a precise financial statement and quantitative implications of the course of actions that management has decided to follow in the immediate next period of time.

Features of a Budget

An analysis of the above said definitions reveal the following features of a budget:

- (1) It is prepared for a definite future period.
- (2) It is a statement prepared prior a defined period of time.
- (3) The Budget is monetary and it is a quantitative statement of policy.
- (4) The Budget is a predetermined statement and its purpose is to attain a given objective.

Purpose of a Budget

The purpose of a budget is to:

1. Communicate ideas and plans to everyone affected by them. A formal system is necessary to ensure that each person is aware of what he or she is supposed to be doing.
2. Coordinate the activities of different departments or sub-units of the organization. This concept of coordination implies, for example, that the purchasing department should base its budget on production requirements, and that the production budget [that is, direct labour budget and machinery utilization budgets etc.] should in turn be based on sales expectations.
3. Establish a system of control by having a plan against which actual results can be progressively compared and variance analyzed for prompt attention and action.
4. Motivate employees to improve their performances.


Classifications of Budget

(A) Classification on the basis of Time:

1. **Long-Term Budgets:** Long-term budgets are prepared for a longer period varies between five to ten years. It is usually developed by the top level management. These budgets summarize the general plan of operations and its expected consequences. Long-Term Budgets are prepared for important activities like composition of its capital expenditure, new product development and research, long-term finance etc.
2. **Short-Term Budgets:** These budgets are usually prepared for a period of one year. Sometimes they may be prepared for shorter period as for quarterly or half yearly. The scope of budgeting activity may vary considerably among different organization.
3. **Current Budgets:** Current budgets are prepared for the current operations of the business. The planning period of a current budget is generally in months or weeks.

(B) Classification According to Functions:

- 1. Functional or Subsidiary Budgets:** The functional budget is one which relates to any of the functions of an organization. The number of functional budgets depend upon the size and nature of business. The following are the commonly used: (1) Sales Budget (2) Purchase Budget (3) Production Budget (4) Selling and Distribution Cost Budget (5) Labour Cost Budget (6) Cash Budget (7) Capital Expenditure Budget
- 2. Master Budgets:** The Master Budget is a summary budget. This budget encompasses all the functional activities into one harmonious unit. The ICMA England defines a Master Budget as the summary budget incorporating its functional budgets, which is finally approved, adopted and employed.



(C) Classification on the basis of Capacity :

1. Fixed Budgets: A fixed budget is designed to remain unchanged irrespective of the level of activity actually attained.

2. Flexible Budgets: A flexible budget is a budget which is designed to change in accordance with the various level of activity actually attained.

The flexible budget also called as Variable Budget or Sliding Scale Budget, takes both fixed, variable and semi fixed manufacturing costs into account.

Budgetary Control


Budgetary Control is the process of establishing budgets relating to various activities and comparing the budgeted figures with the actual performance for arriving at deviations, if any. Accordingly, there cannot be budgetary control without budgets. Budgetary Control is a system which uses budgets as a means of planning and controlling.

According to I.C.M.A. England Budgetary control is defined as the establishment of budgets relating to the responsibilities of executives to the requirements of a policy and the continuous comparison of actual with the budgeted results, either to secure by individual actions the objectives of that policy or to provide a basis for its revision.

Objectives of Budgetary Control

Budgetary Control is planned to assist the management for policy formulation, planning, controlling and coordinating the general objectives of budgetary control and can be stated in the following ways:

- (1) **Planning:** A budget is a plan of action. **Budgetary control** ensures a detailed plan of action for a business over a period of time.
- (2) **Co-ordination:** Budgetary control co-ordinates the various activities of the entity or organization and secure co-operation of all concerned towards the common goal.
- (3) **Control:** Control is necessary to ensure that plans and objectives are being achieved. Control follows planning and co-ordination. No control performance is possible without predetermined standards. Thus, budgetary control makes control possible by continuous measures against predetermined targets. If there is any variation between the budgeted performance and the actual performance, the same is subject to analysis and corrective action.



Advantages of Budgetary Control

- (1) Budgetary control aims at maximization of profits through effective planning and control of income and expenditure - directing capital and resources to the best and most profitable channel.
- (2) There is a planned approach to expenditure and financing of the business so that economy is affected in the utilization of funds to the optimum benefit of the concern.
- (3) It provides a clear definition of the objective and policies of the concern and a tool for objecting these policies to periodic examination.
- (4) It cultivates in the management the habit of thinking ahead - making careful study of the problems in advance before taking decisions.

Limitations of Budgetary Control

1. Budgetary control starts with the formulation of budgets which are mere estimates. **Therefore, the adequacy or otherwise of budgetary control system, to a very large extent, depends upon the adequacy or accuracy with which estimates are made.**
2. Budgets are meant to deal with business conditions which are constantly changing. **Therefore, budgets estimates lose much of their usefulness under changing conditions because of their rigidity. It is necessary that budgetary control system should be kept adequately flexible.**
3. The system of budgetary control is based on quantitative data and represent only an impersonal appraisal to the conduct of business activity unless it is supported by proper management of personal administration.
4. It has often been found that in practice the organisation of budgetary control system become top heavy and, therefore, costly specially from the point of view of small concern.
5. Budgets and budgetary control have given rise to a very unhealthy tendency to be regarded as the solvent of all business problems. This has resulted in a very luke-warm human effort to deal with such problems and ultimately results in failure of budgetary control system.

Preparation of Master and Subsidiary Budget

MASTER BUDGET

Master budget is a consolidated summary of the various functional budgets. A master budget is the summary budget incorporating its component functional budget and which is finally approved, adopted and employed. It is the culmination of the preparation of all other budgets like the sales budget, production budget, purchase budget etc. It consists in reality of the budgeted profit and loss account, the balance sheet and the budgeted funds flow statement. It segregates income, costs and profits by areas of responsibility.

Functional Budgets

Budgets for a period are really classified according to the various activities in the organisation. All activities are interrelated. The forecasts for individual activities are prepared and coordinated with those of other activities and then consolidated to show the total effect of all the activities as a whole. Approved targets for individual functions are known as “functional budgets”.

Principal Functional Budgets

Sales Budget: The sales budget is a forecast of total sales, expressed in terms of money and quantity. The first step in the preparation of the sales budget is to forecast as accurately as possible the sales anticipated during the budget period. The sales budget is the foundation of all other budgets, since all expenditure ultimately depends on the volume of sales.

Product	Units to be sold	Selling price	Total Revenue
Bulb	8500	#400	#3,400,000
Battery	1,600	#560	#896,000

Production Budget: A production budget is a financial plan used by manufacturing companies to determine the number of units that need to be produced during a specified period to meet expected sales demands.

Format:

Expected unit sales

Add: Ending finished goods inventory

Total required units

Less: Beginning finished goods inventory

Required production units

Principal Functional Budgets

Direct Material Budget: A direct material budget is a financial plan that estimates the quantity and cost of raw materials required to meet the production needs of a company for a specific period. It is divided into material usage and material purchases budget

Material Usage Budget: It is an estimates of quantity and cost of raw materials that will be used in production over a specified period.

Format:

Production budget x Material required {units}

Material Purchases Budget: It is an estimates of the quantity and cost of raw materials that need to be purchased during a specific period to meet production needs.

Format:

Quantity of material needed:

Add: planned inventory

Less: opening inventory

Total units to be produced

Price per kg

Total purchases

Direct Labour Budget: It is an estimates of the total cost and number of labour hours required to meet production demands during a specified period.

Format:

Budgeted production {units}

Add: Hours per unit

Total budgeted hours

Labour cost per hour

Total direct labour cost

Production Overhead Budget: It is an estimates of all indirect costs associated with the production process that are not directly tied to specific units of production.

Format:

Total Variable costs

Add: Total Fixed costs

Total production overhead

Selling and Administration Budget: The selling expenses include all items of expenditure on the promotion, maintenance and distribution of finished products. This budget which is closely related to the sales budget is the forecast of the cost of selling and distribution, for the budgeted period.

Format:

Total selling expenses + total administration expenses

Departmental Budget: It is a financial plan that outlines the expected income and expenses for a specific department within an organization for a given period.

Format:

Direct labour

Add: direct material

Add: Variable costs

Add: Fixed cost

Cash Budget: It is a financial plan that estimates cash inflows and outflows over a specific period, typically on a monthly or quarterly basis.

Format:

Opening balance

Add: Cash sales

Add: Collection from debtors

Less: Payments

Closing balance

Master Budget: A master budget is the summary budget incorporating its component functional budget and which is finally approved, adopted and employed. It is the culmination of the preparation of all other budgets like the sales budget, production budget, purchase budget etc

The Nature of Capital Budgeting and Recurrent Budgeting Techniques

Capital budgeting: Capital Budgeting refers to the long-term planning for proposed capital outlays or expenditure for the purpose of maximizing return on investments. Capital budgeting relates to the evaluation of several alternative capital projects for the purpose of assessing those which have the highest rate of return on investment.

The primary objective of capital budgeting is to allocate financial resources in a way that maximizes the value of the organization and generates returns that exceed the cost of capital. It involves analyzing the potential costs and benefits of various investment options to determine which projects are most likely to contribute to the organization's long-term growth and profitability.

The capital expenditure may be : (1) Cost of mechanization, automation and replacement. (2) Cost of acquisition of fixed assets. e.g., land, building and machinery etc. (3) Investment on research and development. (4) Cost of development and expansion of existing and new projects.

Importance of Capital Budgeting

Capital budgeting is important because of the following reasons :

- (1) Capital budgeting decisions involve long-term implication for the firm, and influence its risk complexion.
- (2) Capital budgeting involves commitment of large amount of funds.
- (3) Capital decisions are required for assessment of future events which are uncertain.
- (4) Wrong sale forecast ; may lead to over or under investment of resources.
- (5) In most cases, capital budgeting decisions are irreversible. This is because it is very difficult to find a market for the capital goods. The only alternative available is to scrap the asset, and incur heavy loss.
- (6) Capital budgeting ensures the selection of right source of finance at the right time.
- (7) Many firms fail, because they have too much or too little capital equipment.
- (8) Investment decision taken by individual concern is of national importance because it determines employment, economic activities and economic growth.

Capital Budgeting Techniques

Capital budgeting techniques are used by businesses and organizations to evaluate and analyze investment projects to determine their feasibility, profitability, and potential impact on the organization's financial performance. The commonly used capital budgeting techniques are classified into two main categories of traditional method and discounted cash flow methods.

The traditional method is subdivided into PayBack Period (PBP) and Accounting Rate of Return (ARR).

The Pay Back Period Method:

Payback period calculates the time it takes for an investment project to recoup its initial investment through expected cash inflows. Projects with shorter payback periods are generally preferred because they provide a quicker return on investment and are considered less risky.

Accounting Rate of Return (ARR):

ARR calculates the average annual accounting profit generated by an investment project as a percentage of the average investment. While simple to calculate, ARR does not consider the time value of money and may not provide an accurate measure of a project's profitability.

The Discounted Cashflow Methods are:

1. Net Present Value (NPV):

NPV calculates the present value of all expected cash flows associated with an investment project, including initial investment and future cash inflows and outflows, discounted at a specified rate (usually the cost of capital).

- If the NPV is positive, the project is considered economically viable and is expected to generate returns exceeding the cost of capital. A negative NPV indicates that the project is not expected to generate sufficient returns.

2. Internal Rate of Return (IRR):

- IRR is the discount rate that makes the NPV of an investment project equal to zero. In other words, it is the rate of return at which the present value of cash inflows equals the present value of cash outflows.
- If the IRR exceeds the organization's cost of capital or hurdle rate, the project is typically accepted because it generates returns greater than the cost of capital. Conversely, if the IRR is lower than the cost of capital, the project may be rejected.

3. Profitability Index (PI):

- Profitability index, also known as the benefit-cost ratio, measures the ratio of present value of cash inflows to the initial investment.
- A PI greater than 1 indicates that the project's present value of cash inflows exceeds the initial investment, making it economically viable. A PI less than 1 suggests that the project may not be economically attractive.

Calculations on Capital Budgeting Techniques

PAYBACK PERIOD:

$$\text{Payback period:} = \frac{\text{initial investment outlay}}{\text{Net cash flow per period or annual cash inflow}}$$

This formula can be used when the cash inflows are equal.

Initial investment outlay: this is the initial outlay or cost that the business incurs when it begins an investment or project

Annual Cash Inflows: these refer to the estimated annual earnings or returns that the business expects to make from the particular investment.

PAYBACK PERIOD

When the annual cashflow are not equal:

Years	Cash flows (#)	Cumulative Cashflow
	(5,000,000)	-5,000,000
1	1,185,000	-3,815,000
2	1,125,000	-2,690,000
3	1,140,000	-1,550,000
4	1,770,000	220,000
5	1,180,000	1,400,000

To know the exact period, the formula is:

$$PB = E + B/C$$

Where

PB = Payback period

E = Number of years immediately preceding year of final recovery

B = Balance amount still to be recovered

C = Cash flow during the final year of recovery.

Accounting Rate of Return (ARR)

The formula:

Average annual return or annual profit X 100

Average Investment

Average annual profits = $\frac{\text{total profits}}{\text{number of years}}$

Average investment = $\frac{(\text{Initial investment} + \text{Salvage value})}{2}$

Note: where the cashflow is given instead of net profit: Cashflow – depreciation (-taxes, interest) = Net profit. Also, where the salvage value is not given, add zero to initial investment. Depreciation is calculated as: Initial investment – salvage value (salvage value means the remaining useful life of the asset).

Decision Rule: To decide whether the return is acceptable, the percentage must be compared with the minimum required by the business. If the firm has a target ARR that is less than the percentage achieved, then this investment is acceptable, otherwise not.

NET PRESENT VALUE

This is the difference between the present value of cash inflows and the present value of cash outflows for a project. It is a method of calculating the present value of cash flows (inflows and outflows) of an investment proposal using the cost of capital as an appropriate discounting rate. It considers time value of money.

$$PV = \frac{FV}{(1 + r)^n}$$

Where; FV = is the amount to be received in the future or future value; N = Number of years, r = Annual interest rate

A positive NPV indicates that the investment is expected to generate value, while a negative NPV indicates that it is not economically viable.

Internal Rate of Return (IRR)

$$\text{IRR} = x + (a/a+b) (y-x)$$

Where:

X = the lower rate of interest used

Y = the higher rate of interest used

a = the absolute NPV at X%

b = the absolute NPV at Y%

IRR = Internal Rate of Return

Decision Rule:

Under the IRR, the investment criteria are as follows.

- Invest if $\text{IRR} > \text{cost of capital}$. That is invest if the internal rate of return is more than the cost of capital.
- Do not invest if the $\text{IRR} < \text{cost of capital}$. That is, do not invest if the internal rate of return is less than the cost of capital.
- Remain indifferent if $\text{IRR} = \text{cost of capital}$.

Profitability Index

It can be calculated using the following formula:

$$PI = \frac{\text{Total PV of net cash flows}}{\text{Initial investment}}$$

Or

$$PI = \frac{\text{NPV} + \text{Initial Investment}}{\text{Initial Investment}}$$

Or

$$PI = \frac{\text{NPV}}{\text{Initial Investment}} + 1$$

Decision Rule:

- Accept only projects that have profitability index of more than 1 (one)
- Reject projects that have profitability index of less than one
- Remain indifferent if the index is zero, that is when the PI is equal to 1.

CASH FLOW FORECASTING

Cash flow forecasting is a process of estimating or predicting a company's future cash inflows and outflows over a specific period. Cash inflow is the money coming into the business while cash outflow is the money going out of the business. Net cash flow is the difference between cash inflows and cash outflows. Positive net cash flow is when cash inflows are greater than cash outflows. Negative cash flow is when cash inflows is lower than cash outflows. It's crucial for businesses to manage their cash flow effectively to ensure they have enough liquidity to meet their financial obligations and fund their operations.

The process of cash forecasting usually involves:

Gathering Data: Collecting relevant financial information, including historical cash flow data, sales forecasts, accounts receivable and payable, capital expenditure plans, loan payments, and other cash-related transactions.

Analyzing Trends: Identifying patterns and trends in past cash flows to understand the factors that influence cash movements within the business.

Creating Projections: Using historical data and current business conditions to forecast future cash inflows and outflows. This may involve using various forecasting techniques, such as trend analysis, regression analysis, or probabilistic modeling.

Adjusting for Factors: Considering external factors that may impact cash flow, such as changes in market conditions, economic trends, customer behavior, and regulatory changes.

Scenario Planning: Developing multiple scenarios to assess the potential impact of different outcomes on cash flow, such as best-case, worst-case, and most likely scenarios.

Monitoring and Updating: Continuously monitoring actual cash flows against forecasted amounts and updating the forecast regularly to reflect any changes in business conditions or assumptions.

Sources of Cash Inflows

1. Sales
2. Capital from investors
3. Loans or grants
4. Disposal of fixed assets
5. Rental income from property
6. Account receivables
7. Owners' equity

Sources of Cash Outflows

1. Employees' wages
2. Purchasing from suppliers
3. Rent or mortgage
4. Utility bills
5. Repayments and interest on loans
6. Accrued expenses
7. Taxes

Cash flow Calculations

Opening balance: Previous month's closing balance

Total inflows: All cash inflows added up

Total outflows; All cash outflows added up

Net cash flows: Cash inflows – cash outflows

Closing balance: Opening balance + net cash flow

STANDARD COSTING -; PREPARATION AND COMPUTATION OF VARIANCES

Standard costs are pre-determined costs of manufacturing a single unit or a number of units of product or of rendering a service during a specified future period. The term 'standard cost' consists of two parts, viz., 'standard' and 'cost'. 'Standards' can be established in respect of quantities and qualities like materials and labour. Cost involves the expression of the standard so established in values. They are not the same as budgeted costs. A budget relates to an entire activity or operation; a standard presents the same information on a per unit basis.

CIMA defines standard costing as "a control technique which compares standard costs and revenues with actual results to obtain variances which are used to stimulate improved performance". Standard costing is an accounting method used by companies to estimate the expected costs of a production for a future period.

Standard costing cannot, however, be applied to activities of a non-repetitive nature, since there is no basis for observing repetitive operations and consequently standards cannot be set. Standard costs are developed for repetitive operations and product standard costs can be derived simply by combining the standard costs from the operations which are necessary to make the product.


Standard costing is a management accounting technique used by businesses to plan, control, and evaluate performance. It involves setting predetermined standards for the costs of materials, labor, and overhead, and then comparing actual costs to these standards to identify variances.

STEPS INVOLVED IN STANDARD COSTING

- 1. Setting Standards:** The first step in standard costing is to establish standard costs for various inputs such as materials, labor, and overhead. These standards are based on factors such as historical data, industry benchmarks, engineering estimates, and management's expectations. Standard costs are typically expressed per unit of output or activity.
- 2. Recording Actual Costs:** Once standards are set, actual costs are recorded as they occur during production. This includes the actual costs of materials purchased and used, labor hours worked, and overhead expenses incurred. Compare the standard costing with the actual costing to detect variance.
- 3. Calculating Variances:** At regular intervals, such as monthly or quarterly, variances are calculated by comparing actual costs to standard costs. Variances can be categorized as:
 - **Material Variances:** Differences between actual material costs and standard material costs. (Types: Material price variance and material usage variance)
 - **Labor Variances:** Differences between actual labor costs and standard labor costs. (Labour rate variance and labour time variance)
 - **Overhead Variances:** Differences between actual overhead costs and standard overhead costs (Overhead expenditure variance and Overhead volume variance).
- 4. Analyzing Variances:** After calculating variances, management analyzes the reasons behind the discrepancies between actual and standard costs. Variances may be due to factors such as changes in prices, quantities, efficiency, productivity, or overhead allocation methods.
- 5. Taking Corrective Actions:** Based on the analysis of variances, management takes corrective actions to address unfavorable variances and improve performance. This may involve investigating inefficiencies, implementing cost-saving measures, adjusting production processes, revising standards, or providing additional training to employees.



The following are the important advantages of standard costing :

- (1) It guides the management to evaluate the production performance.**
 - (2) It helps the management in fixing standards.**
 - (3) Standard costing is useful in formulating production planning and price policies.**
 - (4) It guides as a measuring rod for determination of variances.**
 - (5) It facilitates eliminating inefficiencies by taking corrective measures.**
 - (6) It acts as an effective tool of cost control.**
- 

Types of Standards

Basic Standard: This is a “standard” which is established for use, unaltered over a long period of time. These standards are supposed to remain unchanged so long as quality requirements are constant.

Current Standard: A current standard is a standard for a certain period, for certain condition and for certain circumstances.

Expected or Attainable Standard: It is defined by CIMA, London as “a standard which can be attained if a standard unit of work is carried out efficiently, a machine properly operated or a material properly used. Allowances are made for normal losses, waste and machine downtime.”

Ideal Standard: This standard refers to the target which can be attained under most ideal conditions. Hence, it is more idealistic and less realistic. It is defined by the terminology as: “The standard which can be attained under the most favourable conditions, with no allowance for normal losses waste and machine down time”.

Variance Analysis

The Chartered Institute of Management Accountants London, defines variance as “the difference between planned, budgeted, or standard cost and actual cost; and similarly, for revenue”. Variance analysis can be defined as “the analysis of performance by means of variances”. It is the process of computing the amount of and isolating the cause of variances between actual costs and standard costs.

Variance analysis involves:

- (a) Computation of individual variances, and
- (b) Determination of the cause(s) of each variance.

Actual cost which is higher than the standard costs would be a sign of inefficiency and the difference would be termed as unfavourable or adverse. A variance that reduces profit is adverse or unfavourable. A variance that increases profit is favourable. Variance are computed under each element of cost for which standards have been established. Each variance is analyzed to ascertain the causes so that the management can exercise proper control.

TYPES OF VARIANCES

Material Variances

- 1. Material Cost Variance:** The Material Cost Variance is the difference between the Standard cost of materials for the Actual Output and the Actual Cost of materials used for producing actual output. $\{SC - AC\}$ or $\{SQ \times SP\} - \{AQ \times AP\}$
- 2. Material Price Variance:** Material Price Variance is that portion of the Material Cost Variance which is due to the difference between the Standard Price specified and the Actual Price paid for purchase of materials. $AQ \{SP - AP\}$
- 3. Material Usage Variance:** Material Usage Variance is that part of Material Cost Variance which refers to the difference between the standard cost of standard quantity of material for actual output and the Standard cost of the actual material used. $SP \{SQ - AQ\}$

Labour Variances

1. **Labour Cost Variance:** Labour Cost Variance is the difference between the Standard Cost of labour allowed for the actual output achieved and the actual wages paid. It is also termed as Direct Wage Variance or Wage Variance. Labour Cost Variance is calculated as follows:

Labour Cost Variance = Standard Cost of Labour - Actual Cost of Labour

$$\{SC - AC\} \text{ or } \{SH \times SR\} - \{AH \times AR\}$$

2. **Labour Rate Variance:** It is that part of labour cost variance which is due to the difference between the standard rate specified and the actual rate paid.

Labour Rate Variance = Actual Time { Standard Rate - Actual Rate }

$$AH \{SR - AR\}$$

3. **Labour Efficiency {Usage} Variance:** Labour Efficiency Variance otherwise known as Labour Time Variance. It is that portion of the Labour Cost Variance which arises due to the difference between standard labour hours specified and the actual labour hours spent. $SR \{SH - AHW\}$

SR = Standard Rate; AH = Actual Hour; SH = Standard Hour

Overhead Variances: Overhead may be defined as the aggregate of indirect material cost, indirect labour cost and indirect expenses. Overhead Variances may arise due to the difference between standard cost of overhead for actual production and the actual overhead cost incurred. The Overhead Cost Variance may be calculated as follows:

Overhead Cost Variance: {SC – AC}

{Standard Overhead Rate per unit x Actual Output} – Actual Overhead Cost

Or


{Standard Hours for Actual Output x Standard Overhead Rate per hour} – Actual Overhead Cost

Classification of Overhead Variance

Overhead Variances can be classified as :

1. Variable Overhead Variances: This is the difference between standard variable overhead for actual production and the actual variable overhead incurred. Types of variable overhead variances include:

(1) Variable Overhead Cost Variance: This is the difference between standard variable overhead for actual production and the actual variable overhead incurred.



The formula is as follows :

VOVC = {Standard Variable Overhead for Actual Output} - {Actual Variable Overhead}

OR

(Standard Variable Overhead Rate × Actual Output) - Actual Variable Overheads

OR

(Standard Hours for Actual Output × Standard Variable Overhead Rate) – Actual Variable Overheads

OR

(Standard Rate × Actual output) – (Actual Rate × Actual output)

(2) Variable Overhead Expenditure Variance: It is the difference between standard variable overheads allowed for actual hours worked and the actual variable overhead incurred. This variance may be calculated as follows :

Variable Overhead Expenditure Variance =

{Standard Variable Overhead Rate Per hour - Actual Variable Overheads Rate per hour} x {Actual time}

Or

{Standard Variable Overheads for actual hours worked - Actual Variable Overheads}

(3) Variable Overhead Efficiency Variance: This variance arises due to the difference between variable overhead recovered from actual output produced and the standard variable overhead for actual hours worked.

The formula is as follows :

{Variable Overhead Efficiency Variance } =

Standard Rate Per Hour x { Standard Hours for Actual Production - Actual Hours}

II. Fixed Overhead Variance:

- (a) **Fixed Overhead Cost Variance:** It is that portion of overhead cost variance which is due to over absorption or under absorption of overhead for the actual production. In other words, the variance is the difference between the standard fixed overheads allowed for the actual production and the actual fixed overheads incurred.

The variance can be calculated as follows:

$$\begin{aligned} \text{Fixed Overhead Cost Variance} = \\ \{ \text{Actual Fixed Overhead} \} - \{ \text{Standard Fixed Overhead for Actual Production} \} \\ \text{Or} \\ \{ \text{Standard Fixed Overhead Rate per Hour} \} - \{ \text{Actual Fixed Overhead} \} \times \text{Actual Output} \end{aligned}$$

- (b) **Fixed Overhead Expenditure Variance:** This is otherwise termed as "Budget Variance." It is the difference between the budgeted fixed overheads and the actual fixed overheads incurred during the particular period.

$$\begin{aligned} \text{Fixed Overhead Expenditure Variance} = \\ \{ \text{Budgeted Fixed Overheads} \} - \{ \text{Actual Fixed Overheads} \} \end{aligned}$$

- (c) **Fixed Overhead Efficiency Variance:** It is that portion of the Volume Variance which shows the lower or higher output arising from the efficiency or inefficiency of the workers.

$$\begin{aligned} \text{Fixed Overhead Efficiency Variance} = \\ \{ \text{Standard Fixed Overhead Rate per Hour} \} \times \{ \text{Standard Quantity} - \text{Actual quantity} \} \end{aligned}$$


However, before we proceed to study these variances, we should be aware about the basic terms used in the computation of overhead variance:

$$(i) \text{ Standard overhead rate (per unit) } = \frac{\text{Budgeted overhead}}{\text{Budgeted output in units}}$$

$$(ii) \text{ Standard overhead rate (per hour) } = \frac{\text{Budgeted overhead}}{\text{Budgeted hours}}$$

$$(iii) \text{ Standard hours for actual output } = \frac{\text{Budgeted hours} \times \text{Actual output}}{\text{Budgeted Output}}$$

$$(iv) \text{ Standard output for actual hours } = \frac{\text{Budgeted output (in units)} \times \text{Actual hours}}{\text{Budgeted hours}}$$



(v) Absorbed (or Recovered) overhead = Standard Rate per hour × Actual Output
Or standard rate per unit × standard hours for actual output

(vi) Budgeted overhead = Budgeted output × Std. overhead rate per unit
Or Budgeted hours × Std. overhead rate per hour

(vii) Standard overhead = Std. output for actual time × Std. overhead rate per unit
Or Actual hours × Std. overhead rate per hour

(viii) Actual overhead = Actual output × Actual overhead rate per unit
Or Actual overhead = Actual output × Actual overhead rate per unit

MARGINAL COSTING

Marginal costing, also known as variable costing, is a costing technique used in managerial accounting to analyze the relationship between costs, volume, and profitability. It focuses on segregating costs into fixed and variable components and calculates the marginal cost of producing one additional unit.

Terms under Marginal Costing:

Variable Costs: In marginal costing, variable costs are costs that vary in direct proportion to the level of production or sales. These costs include direct materials, direct labor, and variable overhead costs. Variable costs are considered as costs directly attributable to the production of each unit and are excluded from the calculation of inventory valuations.

Fixed Costs: Fixed costs are costs that remain constant regardless of the level of production or sales. These costs include rent, salaries, depreciation, and other overhead costs that do not change with the level of output. Fixed costs are treated as period costs and are not allocated to individual units of production under marginal costing.

MARGINAL COSTING

Marginal Cost: The marginal cost is the additional cost incurred to produce one more unit of a product. It includes only variable costs and excludes fixed costs. The marginal cost is calculated by adding up the variable costs associated with producing one additional unit.

Contribution Margin: The contribution margin is the difference between sales revenue and variable costs. It represents the amount of revenue available to cover fixed costs and contribute to profit after covering variable costs. The contribution margin per unit can be calculated by subtracting variable costs per unit from the selling price per unit.

Break-Even Analysis: Marginal costing is often used in break-even analysis to determine the level of sales or production needed to cover total fixed costs and break even. The break-even point is the level of sales at which total revenue equals total costs, resulting in neither profit nor loss.

SOURCES OF FINANCE

Sources of finance refer to the various ways in which individuals, businesses, governments, or organizations obtain funds to finance their activities, projects, or operations. These sources can be broadly categorized into internal and external sources. Here are some common sources of finance:

1. Internal Sources:

- **Retained Earnings:** Profits that a business has earned and retained for reinvestment in the company.
- **Personal Savings:** Funds contributed by the owner(s) of a business or individuals for personal or business use.
- **Depreciation:** The allocation of funds from the depreciation of assets towards financing new investments or projects.
- **Sale of Assets:** Selling off unused or underutilized assets to generate cash for financing purposes.
- **Working Capital:** Utilizing funds generated from ongoing business operations to finance short-term expenses.

External Sources:

- Debt Financing:

- Bank Loans: Borrowing funds from commercial banks or financial institutions, typically with an agreement to repay the principal amount plus interest over a specified period.
- Bonds: Issuing debt securities to investors in exchange for funds, with the promise of periodic interest payments and repayment of the principal amount at maturity.
- Lines of Credit: Obtaining a pre-approved credit line from a bank or financial institution, allowing the borrower to access funds as needed up to a specified limit.

- Equity Financing:

- Venture Capital: Obtaining funds from venture capital firms or investors in exchange for equity ownership in the company, often used by startups or high-growth companies.
- Angel Investors: Individual investors who provide capital to startups or early-stage companies in exchange for equity ownership.
- Initial Public Offering (IPO): Raising funds by issuing shares of stock to the public for the first time, enabling the company to raise capital from a wide range of investors.



Grants and Subsidies: Receiving financial support from government agencies, non-profit organizations, or other entities for specific projects, initiatives, or research.

Trade Credit: Obtaining goods or services on credit from suppliers, allowing the buyer to defer payment for a certain period.

Crowdfunding: Raising funds from a large number of individuals, often through online platforms, in exchange for rewards, equity, or contributions to a cause or project.



THE END

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