NINJA NOTES

Business Analysis & Reporting 2026

Cost Accounting

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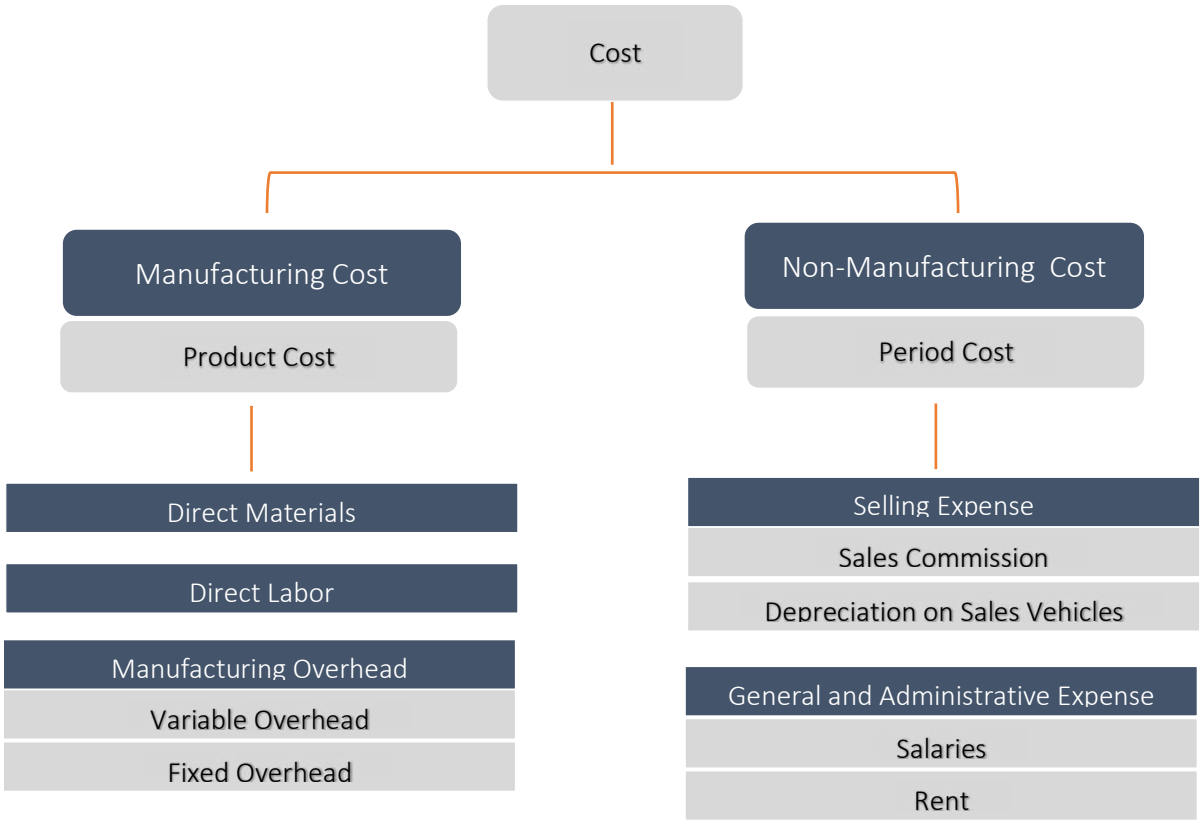
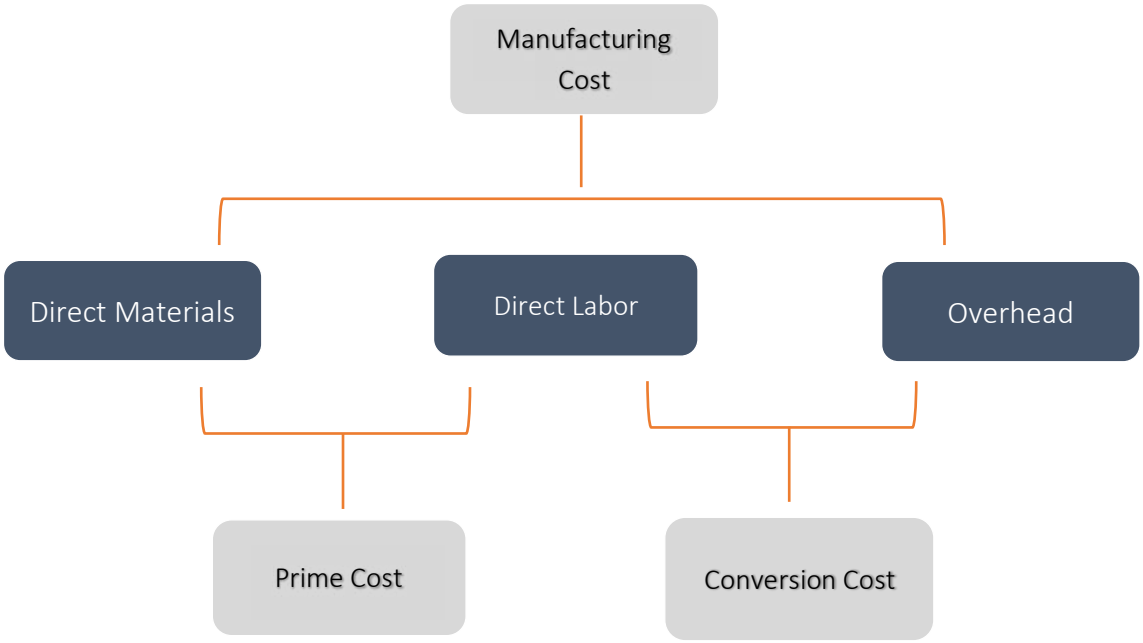
Cost Accounting

Cost Behavior and Cost Objects

- Cost Behavior
  - Cost Behavior indicates the movement of a cost in relation to the production volume.
  - Fixed Costs
    - Total Fixed Costs remain constant within relevant range
    - Fixed Costs per unit change in relation to production volume
    - Fixed Costs are incurred even if there is no activity
  - Variable Costs
    - Variable Costs remain constant on a per unit basis
    - Total Variable Costs Vary in relation to production volume
    - Variable Costs are zero if there is no activity
  - Mixed Costs
    - Displays characteristics of both fixed & variable costs
    - Costs vary with level of activity but not proportionally

- Cost Object


Cost
Manufacturing Cost
Product Cost
Non-Manufacturing Cost
Period Cost
Direct Materials
Direct Labor
Manufacturing Overhead
Variable Overhead
Fixed Overhead
Selling Expense
Sales Commission
Depreciation on Sales Vehicles
General and Administrative Expense
Salaries
Rent


Manufacturing Cost
Direct Materials
Direct Labor
Overhead
Prime Cost
Conversion Cost

Overhead Application and Cost Driver

- Overheads
  - Indirect Costs that cannot be traced directly to a product/job and are therefore applied.
- Overhead Application
  - Overhead is applied at a pre-determined overhead rate.
    - Predetermined Overhead Application Rate = $\frac{\text{Budgeted Overhead Costs}}{\text{Budgeted Direct Labor Hours}}$
  - Applied Overhead = Predetermined Overhead Rate x Actual Labor Hours
- Variances in Actual and Applied Overheads
  - Overapplied Overhead
    - Overapplied Overhead implies that Applied Overhead is more than Actual Overhead (Applied Overhead > Actual Overhead).
  - Underapplied Overhead
    - Underapplied Overhead implies that Applied Overhead is less than Actual Overhead (Applied Overhead < Actual Overhead).
- Reasons for Overapplied / Underapplied Overhead
  - Budgeted Overhead are Overestimated/Underestimated
  - Difference in Activity Level
    - Actual Activity > Budgeted Activity = Overhead Applied > Actual Overhead = Overapplied Overhead
    - Actual Activity < Budgeted Activity = Overhead Applied < Actual Overhead = Underapplied Overhead
- Journal Entry
  - Applied Overhead

WIP	XXX	
Overhead Applied		XXX

- Actual Overhead

Overhead Control	XXX	
Cash		XXX

- Adjustment for Overapplied / Underapplied Overhead

Overhead Applied	XXX	
Cost of Goods Sold (Underapplied)	XXX	
Overhead Control		XXX
Cost of Goods Sold (Overapplied)		XXX

  - Underapplied or Overapplied is Immaterial
    - If Underapplied or Overapplied Overhead is Immaterial, it is adjusted only to the Cost of Goods Sold.
  - Underapplied or Overapplied is Material
    - If Underapplied or Overapplied Overhead is Material it is adjusted for in the Work-in-Process Inventory, Finished Goods Inventory, and Cost of Goods Sold in proportion to their relative size.

Types of Overhead Rates

- Normal Rate
  - Normal Overhead Rate = $\frac{\text{Actual Overhead Costs}}{\text{Actual Direct Labor Hours}}$
- Pre-Determined Overhead Rate
  - Pre-determined Overhead Rate = $\frac{\text{Budgeted Overhead Costs}}{\text{Budgeted Direct Labor Hours}}$
- Blanket Overhead Rate (Factory-Wide Overhead Rate)
  - Blanket Overhead Rate = $\frac{\text{Total Overheads for the Factory}}{\text{Total Number of Hours for the Factory}}$
- Departmental Overhead Rate
  - Departmental Overhead Rate = $\frac{\text{Total Overheads of the Department}}{\text{Total Number of Hours for the Department}}$

Inventory Flow

- Trading Organizations

Opening Finished Goods Inventory
Add: Purchases
Less: Closing Finished Goods Inventory
Cost of Goods Sold

- Manufacturing Organizations

Opening Raw Materials
Add: Purchases
Less: Ending Raw Materials
Direct Materials Consumed

Opening Work-In-Process Inventory
Add: Direct Materials Consumed
Add: Freight-In
Add: Direct Labor
Add: Overheads Applied
Less: Ending Work-In-Process Inventory
Cost of Goods Manufactured

Opening Finished Goods Inventory
Add: Cost of Goods Manufactured
Less: Ending Finished Goods Inventory
Cost of Goods Sold (Tentative)

Cost of Goods Sold (Tentative)
Add: Underapplied Overhead
Less: Overapplied Overhead
Cost of Goods Sold

Costing Systems

- Job Order Costing
  - Costs are allocated to specific jobs and orders
  - Suitability of Job Order Costing
    - Used for unique, expensive, and heterogeneous products
    - Production is carried out solely because of a customer's order, not as a part of the entity's planned inventory
    - Management wants to account for each job as a separate cost unit
  - Costing Calculation
    - Direct Material: Costs are traced & added to the job
    - Direct Labor: All costs incurred are traced to be added to the job
    - Overheads: Applied to products based on direct labor hours incurred on the job
    - Total Cost = Direct Materials + Direct Labor + Overheads
  - Spoilage
    - Refers to rejected units that cannot be rectified
    - Normal Spoilage
      - Losses or expenses inevitable in nature
      - Treated as Product Costs & charged to COGS
      - Per Unit Cost = $\frac{\text{Total Costs}}{\text{Total Units} - \text{Normal Spoilage Units}}$
    - Abnormal Spoilage
      - Loss or Spoilage of inventory caused due to unforeseeable & abnormal conditions
      - Treated as period costs & charged to a separate expense account
      - Abnormal Spoilage = $\frac{\text{Total Cost}}{(\text{Total Units} - \text{Normal Spoilage Units}) \times \text{Abnormal Spoilage Units}}$

- Benefits
  - Useful in analyzing the job-wise profitability.
  - Enhances decision making
  - Easier identification & treatment of spoilages arising during the production
- Limitations
  - Excessive and Expensive Process

- Process Costing
  - Process Costing is a costing method that aggregates production costs by departments or by production phases.
  - Unit Cost is determined by dividing the Total Costs charged to a cost center in a particular period by the Output of that cost center.
  - Suitability of Process Costing
    - Manufacturing activity is carried on continuously.
    - The finished goods produced are homogeneous, and every unit is not distinguishable from other units.
    - The factory is divided into several cost centers or departments and each department is a stage of production.
  - Definitions
    - Equivalent Unit
      - Expression of units produced in terms of complete units
    - Percentage Complete
      - Degree, point/phase in the manufacturing process at which a product currently stands

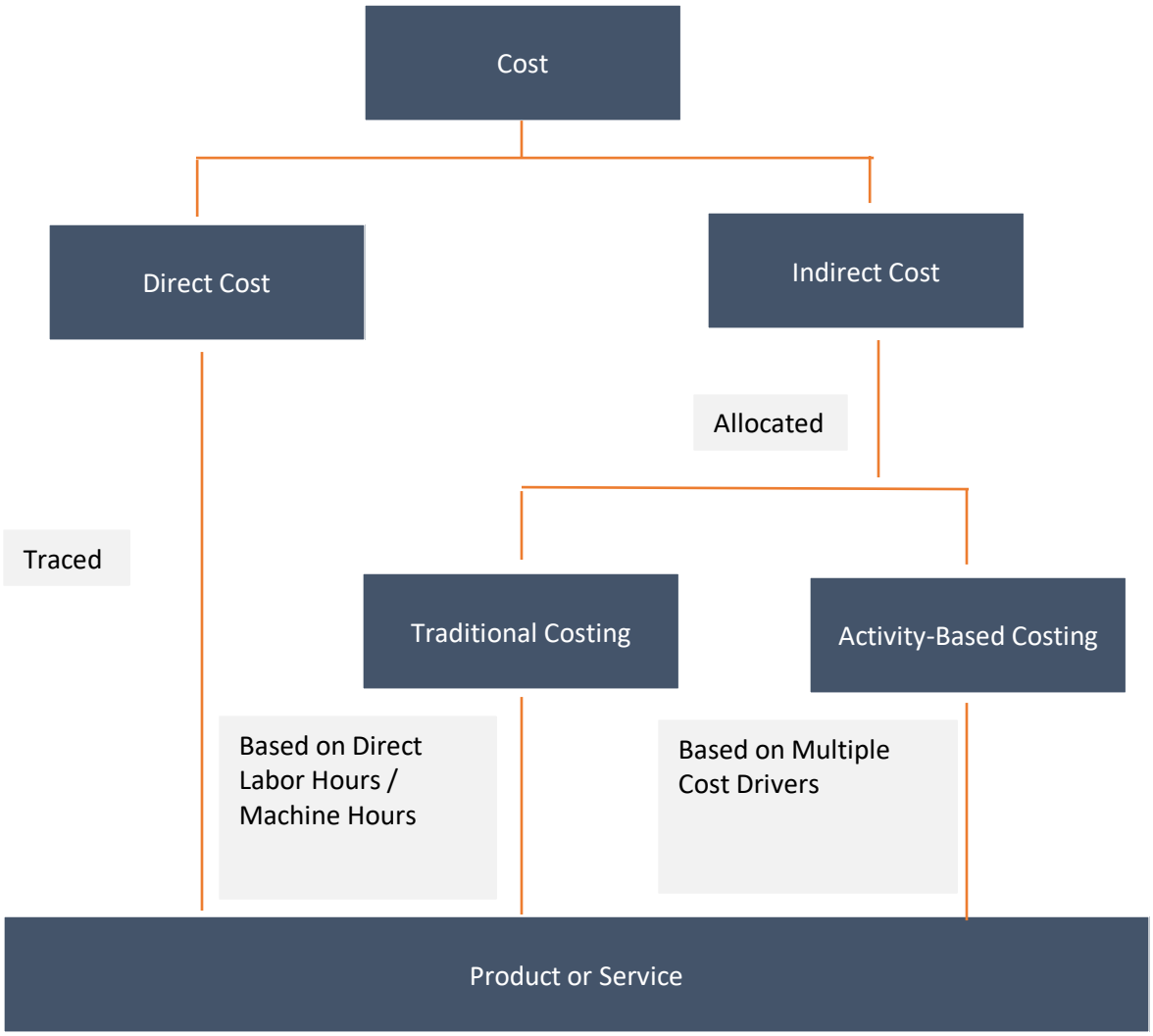
- Process Costing Methods
  - FIFO Method
    - Per Unit Cost = $\frac{\text{Manufacturing Cost incurred in the Current Period}}{\text{Equivalent units manufactured in the Current Period}}$
  - Weighted Average Method
    - Per Unit Cost = $\frac{\text{Manufacturing Cost of the Current Period + Beginning Inventory}}{\text{Equivalent units manufactured in the Current Period + Beginning Inventory}}$
- Process Costing Steps (Template)

Step 1	**Inventory Balances** Opening WIP Inventory XXX Units Started XXX Units to Account for XXX Units Completed XXX Ending WIP XXX Units Accounted for XXX
Step 2	**Calculate Equivalent Units** **FIFO** Units Completed Equivalent Units Completed from Opening Inventory — Units x % Completed Equivalent Units Started and Completed — Units x 100% Ending Inventory Units in Ending Inventory — Units x % Completed **Weighted Average** Units Completed Equivalent Units Completed from Opening Inventory — Units x 100% Equivalent Units Started and Completed — Units x 100% Ending Inventory Units in Ending Inventory — Units x % Completed

Step 3	**Calculate Cost** **FIFO** Direct Material (Current Period) XXX Direct Labor (Current Period) XXX Overhead (Current Period) XXX Total Cost XXX **Weighted Average** Direct Material (Current Period + Beginning Inventory) XXX Direct Labor (Current Period + Beginning Inventory) XXX Overhead (Current Period + Beginning Inventory) XXX Total Cost XXX
Step 4	**Calculate Cost per Unit** Cost per Unit = Total Cost / Equivalent Units
Step 5	**Calculate Ending Inventory Value** Ending Inventory = Equivalent Units in Ending Inventory x Cost per Unit

- Spoilage
  - Refers to rejected units that cannot be rectified
  - Normal Spoilage
    - Losses or expenses inevitable in nature
    - Treated as Product Costs & charged to COGS
    - Normal Loss units are not included in computation of Equivalent Units
  - Abnormal Spoilage
    - Loss or Spoilage of inventory caused due to unforeseeable & abnormal conditions
    - Treated as period costs & charged to a separate expense account
    - Normal Loss units are included in computation of Equivalent Units

- Activity-Based Costing
  - Under Traditional Costing Methods, Overhead Costs are allocated to products and services based on Volume-Based Drivers such as Direct Labor Hours or Machine Hours.
  - Activity-Based Costing (ABC) is an improvement over traditional methods of allocating overhead expenses as it assigns costs based on activities consumed by products and services.



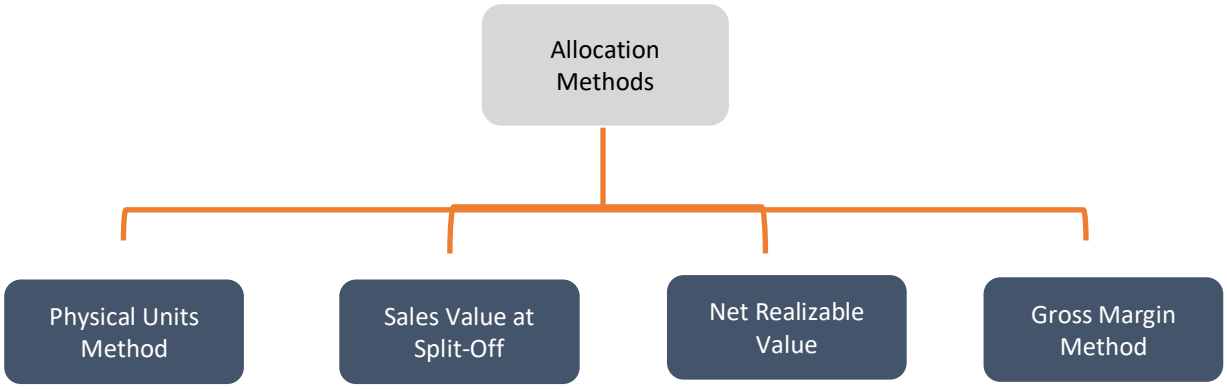
  - Definitions
    - Activities: Work done that incurs costs
    - Cost Drivers: Reflect consumption of costs by activities & products
  - Allocation
    - Costs are allocated to activities based on relative consumption of that drivers.

- Advantages
  - Identification of Cost Behavior
  - Accurate Cost Allocation
  - Streamlining of Activities
- Limitations
  - Expensive
  - Difficult Implementation
  - Not Useful for Small-Sized Firms

- Service Department Cost
  - In-house Support Departments
  - Mostly Cost Centers
  - Costs allocated to production department/other service departments
    - Direct Method
    - Step-Down Method
    - Reciprocal Method
  - Direct Method
    - Costs are directly allocated to production departments based on the ratio of production departments consumption of that service department's activity.
  - Step-Down Method
    - Costs are sequentially allocated to service as well as production departments.
    - Costs of departments providing the most services are allocated first to other service and production departments and then the cost of other service departments are allocated using the same logic.
  - Reciprocal Method
    - Recognizes interdependent nature of service departments
    - Cost Allocation is based on creation of simultaneous equations based on consumption

- Joint Products and By-Products Costing
  - Definition
    - Joint-Product
      - Two or more Products of equal importance produced simultaneously from the same Joint Manufacturing Process.
    - By-Product
      - By-Products are products that emerge as a result of the processing operation of another product.
      - Minor sales value as compared with the sales value of the main (Joint) Products.
    - Split-Off Point
      - Split-Off Point represents the point of production where the various Joint and By-Products become identifiable as separate individual products.
    - Joint Costs
      - Joint Costs represent the cost of the input factors incurred before the split-off and must be allocated to the joint products.
    - Net Realizable Value
      - Net Realizable Value represents sales value less estimated cost to complete and sell.
    - Separable Costs
      - Separable Costs are additional processing costs incurred after the split-off point.

- Joint Product Costing



  - Physical Units Method
    - Allocated to products based on the units manufactured for each product
    - Cost Allocation per product = $\frac{\text{No. of Units Produced}}{\text{Total No. of Units Produced}}$ x Total Overhead Costs
  - Sales Value at Split-Off Method
    - Allocated to products based on their relative sales value at the split-off point
    - Cost Allocation per product = $\frac{\text{Sales Value at Split Off}}{\text{Total Sales Value at Split-Off}}$ x Total Overhead Costs
  - Net Realizable Value Method
    - Used when Joint Costs have no Sales Value at Split-Off Point
    - NRV = Sales Value – Additional Processing Cost
    - Cost Allocation per product = $\frac{\text{NRV}}{\text{Total NRV}}$ x Total Overhead Costs
  - Gross Margin Method
    - Aims at maintaining the same gross margin percentage across all products
    - Gross Margin = Gross Profit / Sales
    - Cost Allocation per product = (Gross Margin % x Sales Value) – Additional Processing Cost

- By-Product Costing
  - By-Products are not allocated joint costs rather NRV from by-products are subtracted from total joint costs.
  - Joint costs that are then allocated to the joint products using one of the methods discussed above.

- Absorption Costing & Variable Costing
  - Difference between Absorption Costing and Variable Costing

	Absorption Costing	Variable Costing
Purpose	External Reporting Purposes	Internal Decision Making
Product Cost	Direct Material, Direct Labor, Variable Manufacturing Overhead & Fixed Manufacturing Overhead	Direct Material, Direct Labor, Variable Manufacturing Overhead
Period Cost	Variable & Fixed Selling, General and Administrative Overhead	Fixed Manufacturing Overhead, Variable & Fixed Selling, General and Administrative Overhead
Format	Sales XXX Variable Manufacturing Costs. (XXX) Fixed Manufacturing Costs (XXX) **Gross Margin XXX** Variable SG&A (XXX) Fixed SG&A (XXX) **Net Operating Income XXX**	Sales XXX Variable Manufacturing Costs. (XXX) Variable SG&A (XXX) **Contribution Margin XXX** Fixed Manufacturing Costs (XXX) Fixed SG&A (XXX) **Net Operating Income XXX**

- Effect of Difference
  - Sales Exceed Production
    - If Sales > Production
    - Then, Opening Inventory > Closing Inventory
    - Fixed Manufacturing Overhead Expensed
      - ⇒ Absorption Costing
        - □ All of Fixed Manufacturing Overhead for the current period, plus Fixed Manufacturing Overhead of the Beginning Inventory Sold
      - ⇒ Variable Costing
        - □ All of Fixed Manufacturing Overhead for the Current Period
    - Therefore, Variable Costing Income > Absorption Costing Income
    - Difference Income = (Opening Inventory - Ending Inventory) x Per Unit Fixed Manufacturing Overhead
  - Production Exceeds Sales
    - If Sales < Production
    - Then, Opening Inventory < Closing Inventory
    - Fixed Manufacturing Overhead Expensed
      - ⇒ Absorption Costing
        - □ Some of Fixed Manufacturing Overhead for the Current Period
      - ⇒ Variable Costing
        - □ All of Fixed Manufacturing Overhead for the Current Period
    - Therefore, Variable Costing Income < Absorption Costing Income
    - Difference Income = (Ending Inventory - Opening Inventory) x Per Unit Fixed Manufacturing Overhead

- Production Equals Sales
  - If Sales = Production
  - Then, Opening Inventory = Closing Inventory
  - Fixed manufacturing overhead expensed:
    - ⇒ Absorption Costing
      - □ All of Fixed Manufacturing Overhead for the Current Period
    - ⇒ Variable Costing
      - □ All of Fixed Manufacturing Overhead for the Current Period
  - Therefore, Variable Costing Income = Absorption Costing Income

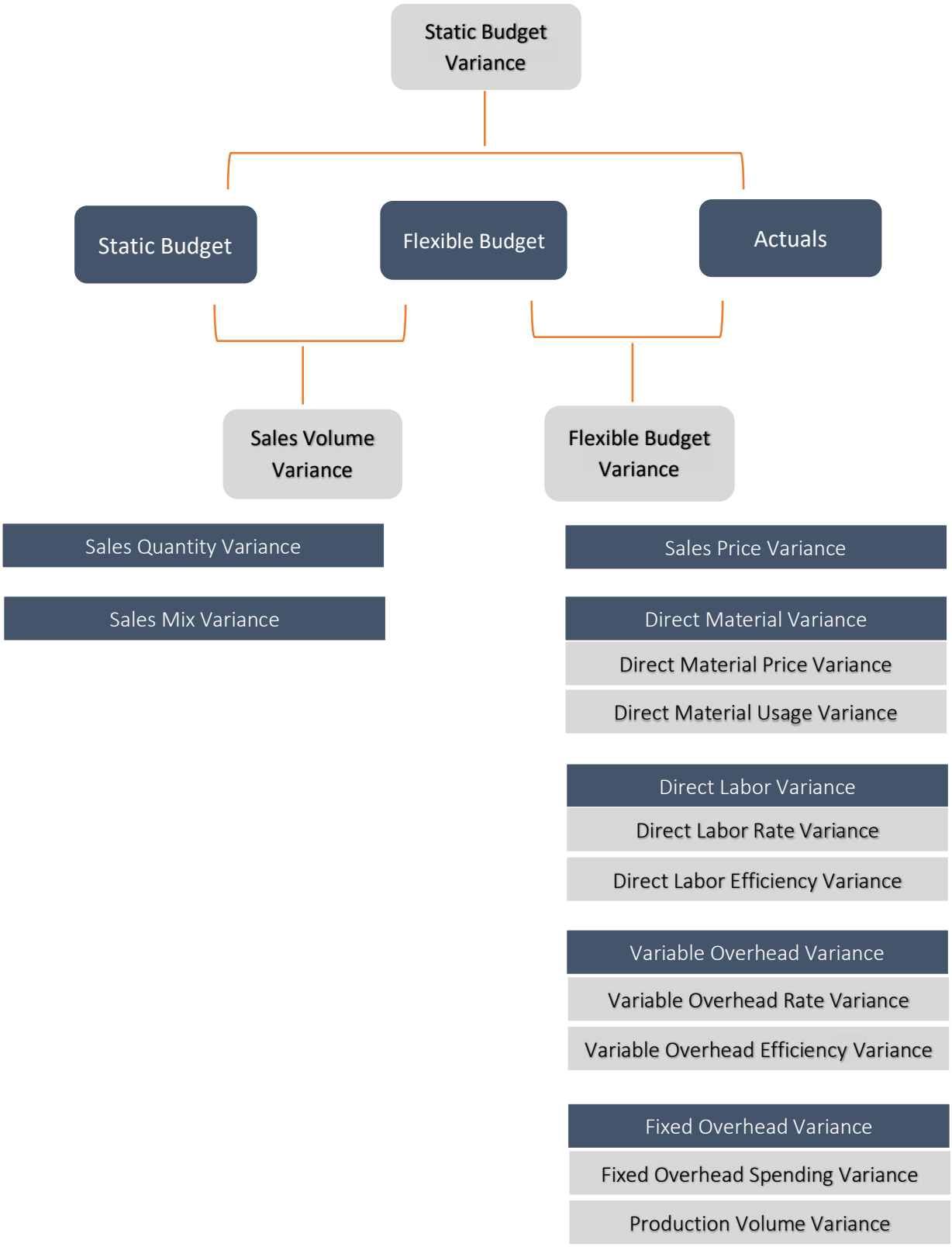
Variance Analysis

- Definition and Types
  - The monitoring of budgets is done by comparing the Budgeted Figures with the Actual Figures.
  - Variances may be of two types:
    - Unfavorable Variance
      - An Unfavorable Variance is a variance that causes a lower revenue or higher expense than what was budgeted.
    - Favorable Variance
      - A Favorable Variance is a variance that causes a higher revenue or a lower expense than what was budgeted.
- Management by Exception
  - Management intervenes only in Exceptional & Significant Situations
  - Allows management to prioritize their time according to the intensity of situations
  - Situations Warranting Management's Attention
    - Quantitative Factors
    - Qualitative Factors

- Advantages
  - Better Use of Management's Time
  - Boosts Employee Morale
- Disadvantages
  - Possibility of Lapses in Reporting
  - Reactive, not Proactive
- Using Management by Exception for analyzing variances
  - Variance is an indication of deviation from the set standards of performance, management intervention might be required if variances are deemed exceptional.
  - Favorable Variance
    - Management must Evaluate the Reason Behind Increased Favorable Variance
      - ⇒ Efficient Performance
      - ⇒ Faulty Standards-Setting
  - Unfavorable Variance
    - Corrective measures should be promptly implemented to deal with unfavorable variance

- Use of Standard Costing System
  - Standard Costs
    - Predetermined target costs, attainable under efficient & optimum conditions
    - Allows employees to establish their target & work towards attaining it
  - Components
    - Direct Materials
      - Standard Price
      - Standard Quantity
    - Direct Labor
      - Standard Rate
      - Standard Hours
    - Variable Overhead
      - Standard Rate
      - Standard Hours
    - Fixed Overhead
      - Budgeted Overhead
      - Pre-determined overhead rate

- Analysis of Variance from Standard Cost Expectations

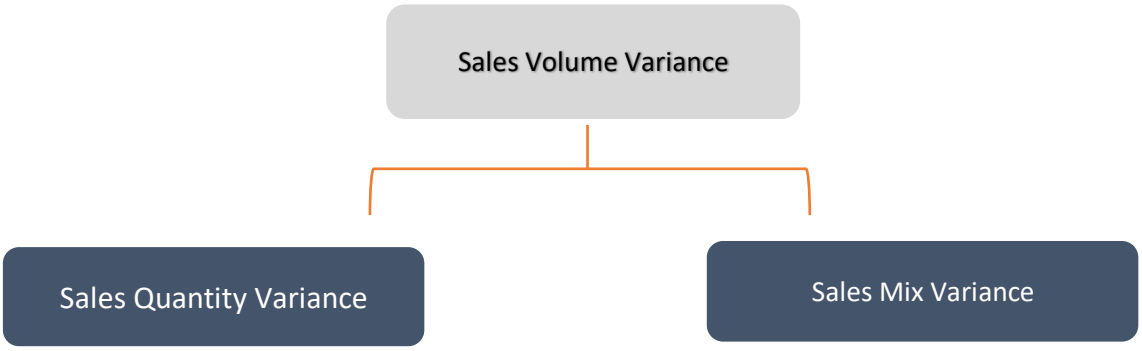


- Flexible Budget Variance

Variance	Formulae	Responsibility Center
Sales Price Variance	Actual Quantity x (Actual Price - Standard Price)	Sales Department
Direct Material Variance		
Direct Material Price Variance	Actual Quantity Purchased x (Standard Price - Actual Price)	Purchase Department
Direct Material Usage Variance	Standard Price x (Standard Quantity - Actual Quantity Used)	Production Department
Direct Labor Variance		
Direct Labor Rate Variance	Actual Hours x (Standard Rate - Actual Rate)	Human Resource Department
Direct Labor Efficiency Variance	Standard Rate x (Standard Hours - Actual Hours)	Production Department
Variable Overhead Variance		
Variable Overhead Rate Variance	Actual Hours x (Standard Rate - Actual Rate)	Production Department
Variable Overhead Efficiency Variance	Standard Rate x (Standard Hours - Actual Hours)	Production Department
Fixed Overhead Variance		
Overhead Spending Variance	Budgeted Fixed Overhead - Actual Fixed Overhead	Production Department
Production Volume Variance	Applied Fixed Overhead - Budgeted Fixed Overhead	Production Department

- Overhead Variance Approach
  - 4-Variance Approach
    - Variable Overhead Spending Variance
    - Variable Overhead Efficiency Variance
    - Fixed Overhead Spending (Budget) Variance
    - Production Volume Variance
  - 3-Variance Approach
    - Spending Variance: Variable Overhead Spending Variance + Fixed Overhead Spending (Budget) Variance
    - Efficiency Variance
    - Production Volume Variance
  - 2-Variance Approach
    - Controllable Variance: Variable Overhead Spending Variance + Fixed Overhead Spending (Budget) Variance + Efficiency Variance
    - Non-Controllable Variance: Production Volume Variance

- Sales Volume Variance



Variance	Formulae	Responsibility Center
Sales Volume Variance		
Sales Quantity Variance	Standard Contribution x Standard Mix x (Actual Quantity - Standard Quantity)	Sales Department
Sales Mix Variance	Standard Contribution x Actual Quantity x (Actual Mix - Standard Mix)	Sales Department