

# **ACCOUNTING AND FINANCE**

## **LEVEL - IV**

**Based On November, 2023 Curriculum V- II**



**MODULE TITLE: Providing Management Accounting Information**

**Module Code: LSA ACF4 M12 1123**

**Nominal Duration: 130HRS**

**Prepared By: Ministry Of Labour and Skills**

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## Acronym

COGS ..... Cost of goods sold

WIP ..... work in process inventory

COGM ..... Cost of goods manufacturing

## Introduction to the Module

Accounting and finance filed; the ‘Providing Management Accounting Information’ This module covers the competence required to gather, record and analyze operating and cost data, prepare budget reports and review costing systems integrity to calculate and record the costs of products and services.

This module is designed to meet the industry requirement under the Accounting and Finance occupational standard, particularly for the unit of competency providing management accounting information.

### This module covers the units:

- Recording operates cost data
- Analyzing assign Costs data
- Budget reports
- Integrating Costing system

### Learning Objective of the Module To:

- Record operating and cost data.
- Produce cost reports.
- Prepare budget reports.
- Review cost system integrity.

### Module Instruction

1. Read the information written in each unit
2. Accomplish the Self-checks at the end of each unit
3. Perform Operation Sheets which were provided at the end of units
4. Read the identified references book for Examples and exercise

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## Unit One: Recording operates cost data

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Introduction To Management Accounting
- Establishment of Data Systems
- Coding, Classifying and Checking Data

This unit will also assist you to attain the learning outcomes stated in the cover page. the completion of this learning guide, you will be able to:

- Define Management Accounting
- Define and Establish Data System
- Code, Classify, and Check.

## Introduction to Management Accounting

Management accounting is a branch of accounting that focuses on providing information and analysis to help internal management make informed business decisions. Unlike financial accounting, which is primarily concerned with reporting financial information to external parties, management accounting is geared towards assisting managers within an organization in planning, controlling, and decision-making.

### 1.1.1 Features of management accounting

**Internal Focus:** Management accounting is primarily concerned with meeting the needs of internal management. It involves the creation of reports and analysis that are tailored to the specific needs of managers within the organization.

**Forward-Looking:** While financial accounting is retrospective, management accounting is forward-looking. It involves forecasting and planning for future activities based on historical data and current trends.

**Decision Support:** Management accountants provide information and analysis to help managers make informed decisions. This can include cost analysis, budgeting, performance evaluation, and other relevant information.

**Flexibility:** Management accounting systems are designed to be flexible and adaptable to the specific needs of an organization. The reports and analyses can be customized to address the unique challenges and goals of the business.

**Cost Accounting:** A significant aspect of management accounting is cost accounting, which involves the identification, measurement, analysis, and interpretation of costs. This information is crucial for making decisions related to pricing, product mix, and resource allocation.

**Budgeting:** Management accountants are often involved in the creation and monitoring of budgets. Budgets serve as a roadmap for the organization, helping to allocate resources efficiently and set performance expectations.

**Performance Measurement:** Management accounting involves the development of key performance indicators (KPIs) and other metrics to assess the performance of different

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segments of the organization. This information helps in evaluating the effectiveness of various processes and activities.

**Strategic Planning:** Management accounting plays a role in strategic planning by providing information on the financial implications of different strategic options. This assists management in making decisions that align with the long-term goals of the organization.

### 1.1.2 Principles of Management Accounting

Management Accounting is based on the following principles:

**Business Entity:** According to this principle, the business organization is a separate entity in comparison to its stakeholders like, owners, managers, workers, creditors, government, bankers and society, etc. and decisions are made for business only.

**Objectivity over Subjectivity:** It is thought that various statements and reports under Management Accounting are prepared objectively which are free from personal biases of individuals or managers. Hence, it works on the principle of objectivity over subjectivity.

**Permanency:** It is presumed under Management Accounting that the practices, procedures and methods, etc. will remain the same and generally no changes are made in them until it is necessary to do so for the sake of scientific comparisons and decision making. It is also known as the principle of consistency.

**Classification of costs:** This principle of Management Accounting divides the costs into normal and abnormal costs. The normal costs are bound to happen in every case but they need to be controlled. The abnormal costs are the costs which happen due to uncontrollable factors like, natural calamities, fire or theft, etc.

**Flexibility over Rigidity:** The methods or systems adopted under Management Accounting should be flexible which may be changed as per changed circumstances and not the rigid ones which become useless in alternate conditions.

**Surplus:** Under this principle of Management Accounting, the systems should be used only up to the extent they prove to be profitable for the organization. They should be abandoned or changed as soon as they become unprofitable for the business.

**Management by Exception:** It's a principle of control used by Management Accounting according to which the actual performance of individuals is compared with the targeted

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performance and if negative deviations are observed, the corrective or remedial actions are initiated. But in case of no deviation, no actions are recommended.

**Forward looking:** This principle of Management Accounting helps in making forecasts regarding the future of the firm and is tried to make it more efficient and profitable.

**Optimum use of resources:** This principle of Management Accounting ensures the best possible use of scarce available resources by controlling the wastages or leakages.

**Information:** This principle says that the information should be collected, analyzed, interpreted and presented to the management with the help of an authentic source having a minimum cost.

**Nature of costs:** This principle of Management Accounting underlines the need of differentiation between controllable and uncontrollable cost by the concerned managers.

**Principle of Prudence:** This principle is also known as the principle of conservatism where all future possible losses should be treated as the losses while all future possible gains or profits should not be considered until they are received. This principle helps in bringing about more efficiency in the organization.

### 1.1.3 Tools of Management Accounting

The following are the main tools or techniques of Management Accounting:

- **Common-size Statements:** Common-size statements are the statements under which the items of financial statements (Income Statement and Balance Sheet, etc.) are converted into percentage by taking a common base which is equal to 100.
- **Comparative Statements:** Comparative Income Statement and Balance Sheet are prepared under Management Accounting to see the changes of items therein over a period of two years and increase or decrease is calculated in absolute terms and then in percentages; so that the management may note the changes and their impact on the financial position of the firm and make take the decisions accordingly.
- **Ratio Analysis:** To study the financial statements seriously and systematically with the help of ratios is known as ratio-analysis. The profitability, financial position (short-term and long-term) and the pace of the business is ascertained with the help

of profitability, Balance Sheet ratios and with the help of turnover ratios, respectively.

- **Trend Analysis:** The possibility of happening or non-happening of something in the long-run is known as the trend and to study the same statistically is known as trend analysis. The trends may be increasing, decreasing, constant or fluctuating. The study of trend helps the management significantly in taking the decisions regarding the business organization.
- **Cash Flow Statement:** It is a statement prepared in the end of the financial year to see the changes in cash position in between two dates (In the beginning and in the end of the financial year) by taking into consideration operating, financing and investing activities. The cash which is thought to be the life blood of a business organization can better be managed with the help of cash flow statement.
- **Funds Flow Statement:** It is a statement to be prepared in the end of the financial year to know the changes in working capital in between two dates (In the beginning and in the end of the financial year). It helps in the better management of working capital by observing the uses and applications of funds.
- **Standard Costing:** It is a cost controlling technique where the standards (benchmarks) are fixed for various elements of cost (Material, labour and expenses), the same are implemented or executed and the actual performance is measured. Then the actual performance is compared with the standard performance and deviations/ changes/ differences are noted down which may be favorable or adverse and consequently the remedial actions are taken by the management for the better performance.
- **Budgetary Control:** It is also a cost controlling technique adopted by Management Accounting where different business activities are controlled with the help of budgets. Under the technique, the budgets are prepared and implemented for different activities of the organization, actual performance is compared with the budgeted performance and deviations are noted down which may be favorable or

adverse and consequently the corrective actions are taken by the management for the better performance.

- **Marginal Costing:** Marginal costing is also a cost controlling technique which takes into consideration only the variable or marginal cost while taking decisions by the management. The fixed cost is put aside as non-controllable cost. The contribution is calculated by subtracting the variable cost from sales and break-even point is calculated with the help of the same by dividing fixed cost with contribution per unit or profit-volume ratio. Break-even point is a point of sales of a business where there is no profit no loss.
- **Responsibility Accounting:** It is an important technique used by Management Accounting where the performance of management is accessed on the basis of the work assigned and the actual performance of the individuals. It helps in fixing the responsibility and accountability of individual manager which helps in increasing the overall efficiency of the organization.

#### 1.1.4 Scope of Management Accounting.

The scope of the Management Accounting which includes the following:

**Financial Accounting:** The financial accounting is a process of identifying, recording, classifying, summarizing, analyzing and interpreting the financial results of a business organization. It is also known as art and science. Under financial accounting, the financial statements in the form of income statements, financial statements, etc. are prepared to impart various information to different stakeholders of the business organization and which are duly audited and certified by the auditor of the concern.

**Cost Accounting:** The cost accounting is a process of calculating cost of goods or services by using different methods or techniques.

**Budgeting and Forecasting:** Budgeting is a process of preparing budgets by taking various steps for the attainment of predetermined objectives while forecasting is an Estimation regarding long future for making assessment of future opportunities and threats available for the organization.

**Management Reporting System:** It is a system which is adopted and implemented by modern organizations these days for free and prompt information sharing so that the required updating is brought about and the management get ready to transform the organization and its structure to cope with the changes in the internal and external environments.

**Tax Accounting:** Every business organization has tax liabilities which are calculated, planned and paid from time to time.

**Human Resource Accounting:** It is that branch of accounting which maintains records of the employees/human resource of an organization right from the date of their joining the organization and up to their retirement/death/leaving the organization.

**Financial Analysis:** The data collected from various sources are studied with the help of appropriate statistical techniques such as mean, mode, median, CAGR, Ratios, common size statements, trends, break-even point, etc.

**Interpretation:** Interpretation is the expression of financial results in simple language which are derived after making the analysis of financial statements to the various stakeholders including the management.

**Audit:** The financial statements (Income Statement and Balance Sheet, etc.) of the organization are checked and verified by the auditors and they issue the certificate regarding their true and fair nature.

**Internet/Print Media:** These days a lot of information are taken from the internet or print media regarding the latest developments in business or economic environment of a country and hence it helps the management in taking the appropriate decisions to cope up with the changing environment.

Difference between financial accounting and management accounting.

Financial accounting and management accounting are two distinct branches of accounting that serve different purposes and audiences within an organization. Here are the key differences between financial accounting and management accounting:

#### I. Audience:

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- **Financial Accounting:** The primary audience for financial accounting is external stakeholders, such as investors, creditors, regulators, and the general public. The purpose is to provide them with accurate and reliable information about the financial performance and position of the company.
- **Management Accounting:** The primary audience for management accounting is internal management, including executives, managers, and decision-makers within the organization. The focus is on providing information to support internal decision-making and planning.

## II. Purpose:

- **Financial Accounting:** The main purpose of financial accounting is to provide a historical record of the financial transactions of the company. It aims to produce financial statements (e.g., balance sheet, income statement, cash flow statement) that summarize the financial performance and position of the company over a specific period.
- **Management Accounting:** The main purpose of management accounting is to help internal management make informed decisions. It involves planning, budgeting, forecasting, and providing information for performance evaluation. The emphasis is on future-oriented information that aids in the strategic planning and day-to-day operations of the business.

## III. Reporting Timeframe:

- **Financial Accounting:** Financial accounting reports are prepared at regular intervals, usually quarterly and annually, in accordance with accounting standards. The information is historical and pertains to the past performance of the company.
- **Management Accounting:** Management accounting reports are more flexible in terms of timing and are often prepared as needed. They can cover both historical and forward-looking information, depending on the requirements of management.

## IV. Regulation:

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- **Financial Accounting:** Financial accounting is subject to strict regulatory standards and reporting requirements, such as Generally Accepted Accounting Principles (GAAP) or International Financial Reporting Standards (IFRS). Compliance with these standards ensures consistency and comparability in financial reporting across different organizations.
- **Management Accounting:** There are no specific regulatory standards for management accounting. Organizations have the flexibility to design their management accounting systems based on their unique needs and requirements.

#### V. Nature of Information:

- **Financial Accounting:** Focuses on providing a summary of overall financial performance and position, including information on revenue, expenses, assets, liabilities, and equity.
- **Management Accounting:** Provides detailed and specific information tailored to the needs of internal management. This can include cost data, budget variances, product profitability, and other information relevant to decision-making.

Difference between management accounting and cost accounting.

Management accounting and cost accounting are related but distinct branches of accounting, each serving different purposes within an organization. Here are the key differences between management accounting and cost accounting:

#### I. Scope:

- **Cost Accounting:** Cost accounting is a subset of management accounting. It specifically focuses on the identification, measurement, analysis, and interpretation of costs for the purpose of managerial decision-making. Cost accounting is concerned with the calculation and control of costs associated with producing goods or services.
- **Management Accounting:** Management accounting has a broader scope than cost accounting. While cost accounting is a component of management

accounting, the latter encompasses a wider range of activities, including budgeting, forecasting, performance measurement, and strategic planning.

## II. Focus:

- **Cost Accounting:** The primary focus of cost accounting is on the accumulation and analysis of costs related to the production process. It involves tracking direct costs (e.g., materials, labor) and indirect costs (e.g., overhead) to determine the total cost of producing a product or service.
- **Management Accounting:** Management accounting has a broader focus, extending beyond cost-related information. It includes financial and non-financial data that aid in decision-making, planning, and control at various levels of the organization.

## III. Nature of Information:

- **Cost Accounting:** Emphasizes information related to the costs of production, such as job costing, process costing, and variance analysis. It helps in determining the cost of goods manufactured and sold.
- **Management Accounting:** Provides a comprehensive set of information, including cost data but also incorporating financial and non-financial performance metrics. Management accounting reports may cover budgeting, forecasting, product profitability, and strategic planning.

## IV. Timing:

- **Cost Accounting:** Often deals with historical costs, analyzing and allocating costs that have already been incurred. It is retrospective in nature.
- **Management Accounting:** While it may include historical information, management accounting is also forward-looking. It involves forecasting, budgeting, and planning for future activities based on historical data and current trends.

## V. Users:

- **Cost Accounting:** Primarily serves the needs of internal management, especially those responsible for production and operations.

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- **Management Accounting:** Serves a broader audience within the organization, including top-level management, as it encompasses various aspects of decision-making and strategic planning.

## VI. Regulation:

- **Cost Accounting:** Generally, follows principles established in cost accounting standards, but it may not be subject to the same level of external regulation as financial accounting.
- **Management Accounting:** There are no specific regulatory standards for management accounting, allowing organizations flexibility in designing their management accounting systems.

### 1.2 Establishment Cost Data Systems

System is an organized collection of parts (or subsystems) that are highly integrated to accomplish an overall goal. The system has various inputs, which go through certain processes to produce certain outputs, which together, accomplish the overall desired goal for the system. So, a system is usually made up of many smaller systems, or subsystems. For example, an organization is made up of many administrative and management functions, products, services, groups and individuals. If one part of the system is changed, the nature of the overall system is changed.

### Costing Systems in a Workplace

- Used to determine the cost of goods produced by an organization
- Useful for accomplishing the “performance management” aspects of a managerial accountant’s job

### Ledger System

- The ledger system mirrors the physical flow of production.
- Attempts to measure costs associated with the conversion of raw materials into the finished product sold.
- Includes Input cost accounts, Processing cost accounts and Output cost accounts.

### The General ledger system

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- Used to sort and store balance sheet and income statement transactions.
- Should be organized in a way that it can be used to produce all the information that senior management will need.

### **The Basic Steps in Accounting to Determine Process Cost**

- Summarize the flow of physical units of output.
- Compute output in terms of equivalent units.
- Summarize total costs to account for and compute equivalent unit costs.
- Assign total costs to units completed and to units in ending work in process inventory.

### **Functions of Management Accountant**

- Collection of data.
- Transcribing the collected data to make it more meaningful.
- Analyzing the data with appropriate techniques.
- Interpretation of results.
- Preparation of Reports.
- Sharing the reports with management.

### **1.3 Coding, classifying, and checking of data.**

Data classification in financial terms, is used to list categories, classify and sort transactions to a specific account code.

#### **Data include:**

- Consumables records
- inventory, materials and finished product records
- labour utilization records
- manufacturing and general overhead costs
- materials used record
- payroll records
- records of purchases and associated costs
- sales information

- service charge out rates

### **Classify data**

Provide a classification for each of the costs.

### **Production Process**

- Manufacturing deals with inputs, process and outputs.
- Classified in two broad areas of Job order production and Process production.

### **Physical Production Flows.**

**The resource flow involves both physical and monetary elements:**

- Raw material acquisition
- Raw Material Processing
- Production of finished goods
- Sale of finished goods

### **Cost Concepts**

- Different costs associated for Production and Service Industry.
- Cost elements such as materials, labour and overheads
- Raw materials – Direct and indirect materials
- Labour – Direct labour and indirect labour
- Manufacturing and factory overheads
- Fixed costs and Variable costs
- Semi-variable or semi fixed cost
- Direct and indirect costs, prime cost, conversion cost, product costs (manufacturing costs), service cost, period costs, unit cost.
- Work in Progress
- Finished Goods
- Factory Overhead Applied
- Cost Estimation – High Low Analysis
- Sales volume
- Sales mix

- Mark-up
- Contribution margins
- Gross profit rate
- Break-even point
- Contribution Margin Ratio
- Calculation of selling price

### Cost of Goods Manufactured

- 1) Start with the Beginning Work in Process
  - 2) Find Direct Materials Used
  - 3) Find Total Manufacturing Costs
  - 4) Find Cost of Goods Manufactured
- **Use this basic equation:**

Beginning balance + additions – deductions = ending balance

- 1) Find Beginning Work in Process
- 2) Find Direct Materials Used

Raw Materials Beginning Inventory  
+ Raw Materials Purchased  
= Raw Materials Available for Use  
- Raw Materials Ending Inventory  
= Direct Materials Used

- 3) Find Total Manufacturing Costs

Direct Materials Used (Step 2)  
+ Direct Labor  
+ Total Manufacturing Overhead  
= Total Manufacturing Costs

- 4) Find Cost of Goods Manufactured

Work in Process Beginning Inventory (Step 1)  
+ Total Manufacturing Costs (Step 3)

= Total Cost of Work in Process

- Work in Process Ending Inventory= Cost of Goods Manufactured

<b>Cost of Goods Manufactured Schedule</b>			
<b>For the Year Ended December 31, 2017</b>			
Work in process, January 1			\$ 18,400
Direct materials			
Raw materials inventory, January 1	\$ 16,700		
Raw materials purchases	152,500		
Total raw materials available for use	169,200		
Less: Raw materials inventory, December 31	22,800		
Direct materials used		\$146,400	
Direct labor		175,600	
Manufacturing overhead			
Indirect labor	14,300		
Factory repairs	12,600		
Factory utilities	10,100		
Factory depreciation	9,440		
Factory insurance	8,360		
Total manufacturing overhead		54,800	
Total manufacturing costs			376,800
Total cost of work in process			395,200
Less: Work in process, December 31			25,200
Cost of goods manufactured			\$370,000

Figure 1. 1 cost of good manufacturing schedule example

Table 1. 1 find beginning work in process inventory

<b>Beginning Work in Process Inventory</b>	+	<b>Total Manufacturing Costs</b>	=	<b>Total Cost of Work in Process</b>	-	<b>Ending Work in Process Inventory</b>	=	<b>Cost of Goods Manufactured</b>
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Table 1. 2 find cost of goods sold

<b>Beginning Finished Goods Inventory</b>	+	<b>Cost of Goods Manufactured</b>	-	<b>Ending Finished Goods Inventory</b>	=	<b>Cost of Goods Sold</b>
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<b>MANUFACTURING COMPANY</b>	
<b>Income Statement (partial)</b>	
<b>For the Year Ended December 31, 2017</b>	
<b>Cost of goods sold</b>	
<b>Finished goods inventory, Jan. 1</b>	<b>\$ 90,000</b>
<b>Cost of goods manufactured (see Illustration 1-9)</b>	<b>370,000</b>
<b>Cost of goods available for sale</b>	<b>460,000</b>
<b>Less: Finished goods inventory, Dec. 31</b>	<b>80,000</b>
<b>Cost of goods sold</b>	<b>\$ 380,000</b>

Figure 1. 2 income statement

### Inventory on the Balance Sheet

- Manufacturing companies have three inventory accounts: raw materials inventory, work-in-process inventory and finished goods inventory.
- Raw Materials inventory includes all the direct and indirect materials purchased but not yet used in the manufacturing or production process.
- Work-In-Process Inventory includes all the direct materials, direct labor and manufacturing overhead costs that have been added to the manufacturing process but for which production has not been completed.
- Finished Goods Inventory includes all manufacturing costs for products that have been completed but not sold.

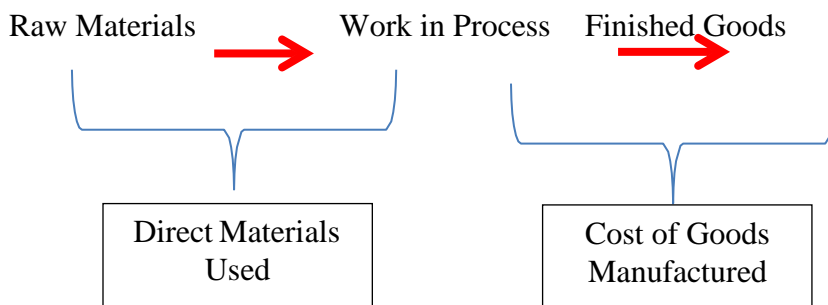


Figure 1. 3 inventory process

MANUFACTURING COMPANY			
Balance Sheet			
December 31, 2017			
<b>Current assets</b>			
Cash			\$180,000
Accounts receivable (net)			210,000
<b>Inventory</b>			
Finished goods	\$80,000		
Work in process	25,200		
Raw materials	22,800	128,000	
Prepaid expenses		18,000	
Total current assets			\$536,000

Figure 1. 4 balances sheet

## Self check - one

### Part I: multiple choice

1. What is considered the language of business used to communicate financial information?
  - A. Marketing
  - B. Profit
  - C. Pricing
  - D. Accounting
2. What is the main objective of management accounting?
  - A. To identify and analyses the result of business operations.
  - B. To study business transactions
  - C. To check and maintain accounting records
  - D. To remind the amount due to customers
3. Which personnel of a financial firm play a key role in management accounting?
  - A. Investors
  - B. Managers
  - C. Suppliers
  - D. Customers
4. What are the instruments/ tools related to management accounting?
  - A. Marginal costing
  - B. Standard costing
  - C. Budget control
  - D. All of the above
5. Which of the following statements are true according to management accounting?
  - A. Management accounting is compulsory.
  - B. Is objective in nature?
  - C. It is mainly focused on future
  - D. Management accounting and cost-accounting are similar.

### Part II: fill in the blank space

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- \_\_\_\_\_ 1. Labor in a furniture manufacturing facility, the electricity cost of running machinery
- \_\_\_\_\_ 2. A labor refers to the workforce directly producing goods or delivering services.
- \_\_\_\_\_ 3. A material in manufacturing wooden furniture, timber, nails, and glue
- \_\_\_\_\_ 4. Materials include cleaning supplies, lubricants for machines, or small quantities used to maintain equipment in the furniture manufacturing facility.
- \_\_\_\_\_ 5. The salaries of maintenance staff, supervisors, and quality control inspectors in the automobile assembly plant

#### **Part IV: work out question**

T Company has provided the following data for the month of July:

Beginning	Ending	
Work-in-process inventory	\$23,000	\$21,000
Finished goods inventory	26,000	35,000
July Activity		
Direct materials used	\$56,000	
Direct labor incurred	91,000	
Manufacturing overhead	61,000	

#### **Required:**

1. Determine total manufacturing costs, cost of goods manufactured and cost of goods sold for July?

#### **Part III: Write short answer for the following question**

1. What do you understand by Management Accounting?
2. Explain the scope of Management Accounting.
3. What are the functions of Management Accounting?
4. Elucidate the functions of management accountant?

## Unit Two: Analyzing Assign Costs data

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Assigning costs
- Interpretation of revenues and costs

This Unit will also assist you to attain the learning outcomes stated in the cover page. The completion of this learning guide, you will be able to:

- To assign costs to specified products, services and organizational units
- Interpret and support of revenues and costs

## Assigning costs

Cost Allocation or cost assignment is the process of identifying and assigning costs to the various cost objects. These cost objects could be those for which the company needs to find out the cost separately.

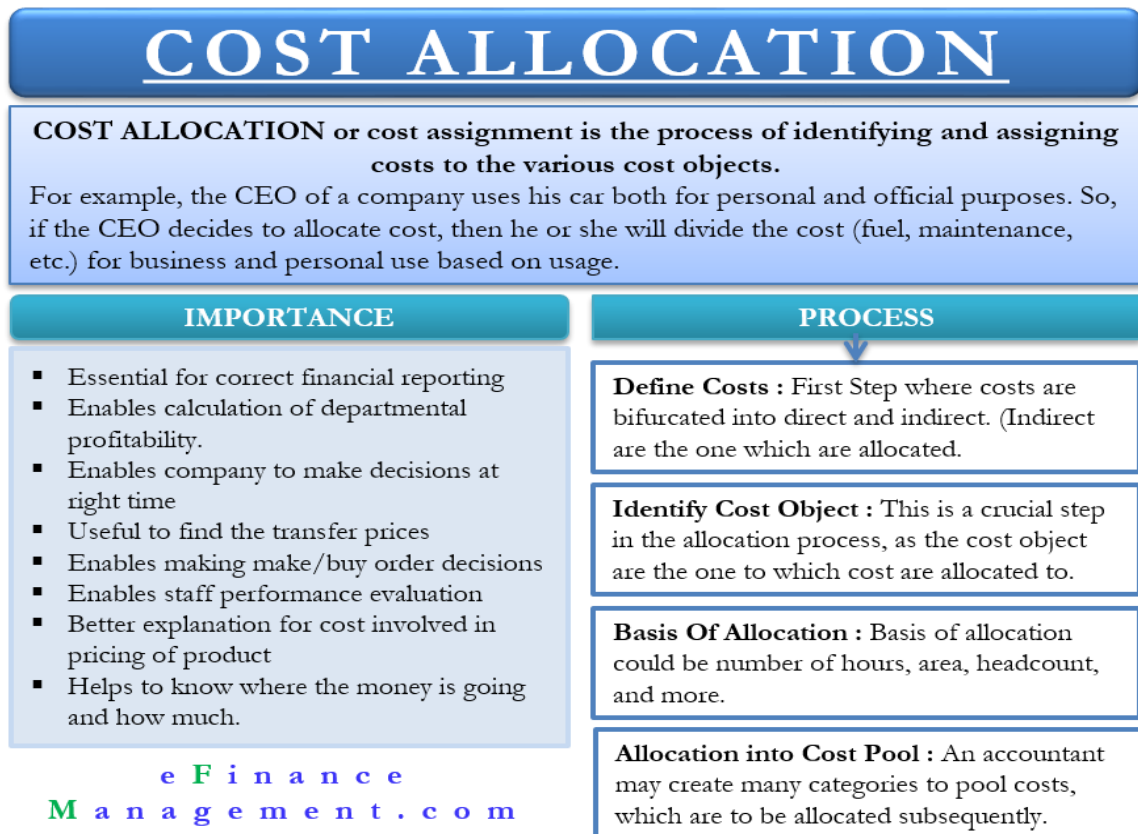


Figure 2. 1 cost allocation

Before allocating the cost, a company must define the various types of costs. Generally, there are three types of costs – direct, indirect, and overhead.

**Direct costs** are those that one can easily attribute to a product or service, such as wages to factory workers or raw material for the specific product.

**Indirect costs** are ones that a company needs to incur for its operations, such as administration costs. Primarily, these are the costs that a company needs to allocate as it is difficult to attribute them directly to a product or service or any other cost object.

Another type of cost is an **overhead cost**, which is also an indirect cost. These costs are incurred for the production and selling of goods or services. Such costs do not vary based

on production or sales. A company needs to pay them even if it is not producing or selling anything. Research and development costs, rent, etc., are good examples of such a cost. recommend choosing a cost allocation base that is a crucial cost driver as well.

## 2.2 Classification of Cost

The process of grouping costs according to their common characteristics is known as Classification. It is systematic procedure of placing the like items together according to their common features.

The different basis of classification of cost are as follows:

- A. By Time
- B. By Nature, or Elements
- C. By degree of traceability of product
- D. Association with the product
- E. By changes in activity or volume
- F. By function
- G. Others

### Classification on the Basis of Time:

- A. **Historical Costs:** Costs which are ascertained after these have been incurred is known as Historical Cost. Historical Cost is Actual Cost. These costs are not available until after the completion of the manufacturing operations or after rendering the services.
- B. **Pre-determined Costs:** The cost which are ascertained in advance of production on the basis of a specification of all the factors' affecting cost is known as Pre-Determined Costs. These costs are used for planning and control purpose.

### Classification by nature or element:

Cost is composed by three elements i.e., Material, Labour and Expenses.

- A. **Material:** the substance from which the final product is made is known as material. According to CIMA, London, material cost is “the cost of commodities supplied to an undertaking”.
  - I. **Direct Material:** The cost which can be easily identified with and allocated to cost units is known as Direct Material. Direct Materials generally become a part of the finished product. E.g., Clay in bricks,

Leather in shoes, Steel in machines, Cloths in garments, timber in furniture, etc.

II. **Indirect Material:** The materials that cannot be easily identified with the individual cost units is known as Indirect Material. E.g., Lubricant Oil, Consumables, Nuts and bolts, Coal, Small Tools, Office Stationery.

B. **Labour Cost:** The efforts of the human to convert the materials into finished product is called labour. The labour cost is, “the cost of remuneration (wages, salaries, commissions, bonuses etc.) of the employees of an undertaking” (CIMA).

I. **Direct Labour:** Wages paid to workers directly engaged in converting the raw materials to finished goods is known as Direct Labour. These wages can be identified with a particular job or process. Eg. Machine Operator Shoe maker, Carpenter, Weaver, Tailor etc.

II. **Indirect Labour:** General Character and cannot be conveniently identified with a particular cost unit. Indirect Labour are not directly engaged in the production operations but will only assist or help in production/ operations. E.g. Supervisor, Inspector, Works Manager, Clerk, Peon, Watchman etc.

C. **Expenses:** Cost other than material and labour is termed as expenses. It is defined as “the cost of services provided to an undertaking and the notional cost of the use of owned assets”. (CIMA).

I. **Direct Expenses:** “Direct Expenses are those expenses which can be identified with and allocated to cost centers or units”. (CIMA). These are the expenses that are specifically connected to the production of the final product/ services. Eg. Hire of Plant for a particular job, Travelling expenses, cost of Patent Rights, etc.

II. **Indirect Expenses:** the cost that cannot be directly identified with a particular job, process or work order and are common to cost units or cost centers are known as Indirect Expenses. Eg. Rent and rates, Depreciation, Lighting and Power, Advertising, Insurance, etc.

### By degree of traceability of product

Cost can be distinguished in Direct Cost and Indirect Cost:

- A. **Direct Cost:** Costs which can be easily and conveniently identified with a unit of product or other cost object. Examples of Direct Cost, cost of raw materials and wages of machine operator.
- B. **Indirect Cost:** Costs than cannot be easily and conveniently identified with a unit of product or other cost object is known as Indirect Cost. Examples: Depreciation of machinery, insurance, lighting, rent, etc.

### Association with the product

- A. **Product Cost:** The cost which are necessary for the production and which will not be incurred if there is no production is known as Product Cost. Product cost consist of Direct Materials, Direct Labour, and factory overheads.
- B. **Period Cost:** Cost which are not necessary for the production and are incurred even if there is no production is known as Period Cost. Example: Showroom rent, salary of company, travel expenses etc. Administration and Selling expenses are generally treated as period cost.

### By changes in activity or volume

Cost factors behave differently when the level of production rises or falls. Certain cost changes in sympathy while other cost remains the same. On the basis of behavior, costs are classified into fixed, variable and semi variable.

- A. **Fixed Cost:** A fixed cost is a cost that remains constant, in total, regardless of changes in the level of activity. Unlike variable costs, fixed costs are not affected by changes in activity. Consequently, as the activity level rises and falls, the fixed costs remain constant in total amount unless influenced by any outside forces, such as price changes. Rent is a good example of fixed cost. Average fixed cost per unit increases and decreases inversely with changes in activity.
- B. **Variable Cost:** A variable cost is a cost that varies, in total, in a direct proportion to changes in the level of activity. The activity can be expressed in many ways, such as, units produced, units sold, miles driven, beds occupied,

hours worked and so forth. Direct material is a good example of a variable cost. The variable cost is constant if expressed on a per unit basis.

#### The Characteristics of Variable Cost:

- Variability of the total amount in direct proportion to the volume of output.
- Fixed amount per unit in the face of changing volume.
- Easy and reasonably accurate allocation and apportionment to departments
- This cost can be controlled by functional managers.

**C. Mixed/Semi Variable Cost:** A **mixed cost** is one that contains both variable and fixed cost elements together. Mixed cost is also known as semi variable cost. Examples of mixed costs include electricity, water and telephone bills. The rent paid for the line or counter is a fixed cost, the kilowatt hour or number of calls payment is a variable cost as payment varies with usage.

#### Cost-volume-profit analysis

Cost-volume-profit analysis examines the behavior of total revenues, total costs, and operating profit as changes occur in the output level, selling price, variable costs per unit, or fixed costs.

Managers use cost-volume-profit (CVP) analysis to identify the levels of operating activity needed to avoid losses, achieve targeted profits, plan future operations, and monitor organizational performance.

Accountants often perform CVP analysis to plan future levels of operating activity and provide information about:

- Which products or services to emphasize
- The volume of sales needed to achieve a targeted level of profit
- The amount of revenue required to avoid losses
- Whether to increase fixed costs
- How much to budget for discretionary expenditures
- Whether fixed costs expose the organization to an unacceptable level of risk

#### Profit Equation and Contribution Margin

CVP analysis begins with the basic profit equation.

**Profit = Total revenue -Total costs**

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Separating costs into variable and fixed categories, to express profit as:

$$\text{Profit} = \text{Total revenue} - \text{Total variable costs} - \text{Total fixed costs}$$

Contribution margin indicates why operating income changes as the number of units sold changes. The contribution margin is **total revenue minus total variable costs**. Similarly, the contribution margin per unit is the selling price per unit minus the variable cost per unit. Both contribution margin and contribution margin per unit are valuable tools when considering the effects of volume on profit. Contribution margin per unit tells us how much revenue from each unit sold can be applied towards fixed costs. Once enough units are sold to cover all fixed costs, then the contribution margin per unit from all remaining sales becomes profit.

### Expressing CVP Relationships

There are three related methods to deal with the model CVP relationships:

- I. The equation method
- II. The contribution margin method
- III. The graph method

The equation method and the contribution margin method are most useful when managers want to determine operating income at *few specific levels* of sales (for example 5, 15, 25, and 40 units sold). The graph method helps managers visualize the relationship between units sold and operating income over *a wide range* of quantities of units sold. However, different methods are useful for different decisions.

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#### I. Equation Method

$$\text{Revenues} - \text{Variable costs} - \text{Fixed costs} = \text{Operating income}$$

$$\text{Thus: } * \text{Revenues} = \text{Selling price (SP)} \times \text{Quantity of units sold (Q)}$$

$$* \text{Variable costs} = \text{Variable cost per unit (VCU)} \times \text{Quantity of units sold (Q)}$$

$$(\text{SP} \times \text{Q}) - (\text{VCU} \times \text{Q}) - \text{fixed cost} = \text{operating income} \dots \quad \text{Equation 1}$$

Equation 1 becomes the basis for calculating operating income for different quantities of units sold.

## II. Contribution Margin Method

Rearranging equation 1,

$$(\text{SP} - \text{VCU}) \times (\text{Q}) - \text{fixed cost} = \text{operating income}$$

$$= (\text{Contribution margin} \times \text{Q}) - \text{fixed cost} = \text{operating income} \quad \text{Equation 2}$$

## III. Graph Method

In the graph method, represent total costs and total revenues graphically. Each is shown as a line on a graph.

**Total costs line.** The total costs line is the sum of fixed costs and variable costs. In this example the total costs line is the straight line from point **A** through point **B**.

**Total revenue line.** One convenient starting point is \$0 revenues at 0 units sold, which is point **C**. Select a second point by choosing any other convenient output level and determining the corresponding total revenues. The total revenue line is the straight line from point **C** through point **D**.

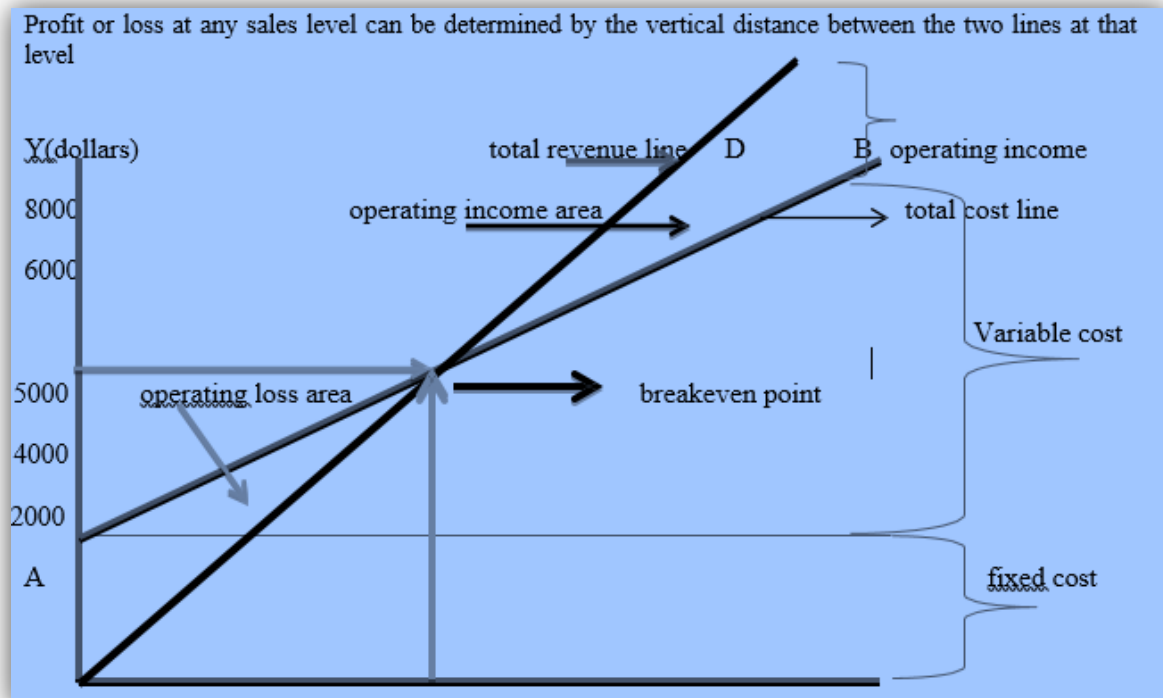


Figure 2. 2 cost – volume assumptions

### Break Even Point and Target Operating Income

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The **breakeven point (BEP)** is that quantity of output sold, at which total revenues equal total costs, that is, the quantity of output sold those results in \$0 of operating income.

**Example:**

If the company sold one unit at \$ 200, variable cost per unit \$120, and also fixed cost is \$ 2,000, what will be the amount of break-even quantity?

➤ Recall the equation method (equation 1):

$$(SP \times Q) - (VCU \times Q) - \text{fixed cost} = \text{operating income}$$

$$= (\$200 \times Q) - (\$120 \times Q) - \$2,000 = 0$$

$$= \$80 \times Q = 2,000$$

$$= Q = 2,000 \div 80 \text{ per unit}$$

$$= 25 \text{ units}$$

If the company sells fewer than 25 units, it will incur a loss; if it sells 25 units, it will be at breakeven; and if it sells more than 25 units, it will make a profit. While this breakeven point is expressed in units, it can also be expressed in revenues (Dollar): 25 unit's  $\times$  \$200 selling prices = \$5,000.

- Recall the contribution margin method (Equation 2):

(Contribution margin  $\times$  Q) – fixed cost = operating income, since at break even, operation income is zero (0),

$$\text{*Contribution margin per unit} \times \text{Breakeven number of units} = \text{Fixed cost} \quad \textbf{Equation 3}$$

Rearranging Equation 3 and entering the data,

$$\text{Breakeven number of units} = \text{Fixed cost} \div \text{contribution margin per unit} = \$2,000 \div \$80 =$$

$$25 \text{ units}$$

$$\text{Breakeven revenues} = \text{Breakeven number of units} \times \text{Selling price}$$

$$= 25 \text{ units} \times \$200 \text{ per unit} = \$5,000$$

In practice (because they have multiple products), companies usually calculate breakeven point directly in terms of revenues using contribution margin percentages.

$$\textbf{Contribution margin percentage} = \text{Contribution margin per unit} = \$80 = 0.4 \text{ or } 40\%$$

$$\text{Selling price} \quad \$200$$

That is, 40% of each dollar of revenue, or 40 cents, is contribution margin. To breakeven, contribution margin must equal fixed costs of \$2,000. To earn \$2,000 of contribution margin, when \$1 of revenue earns \$0.40 of contribution margin, revenues must equal  $\$2,000 \div 0.40 = \$5,000$ . While the breakeven point tells managers *how much they must*

sell to avoid a loss, managers are equally interested in how they will *achieve the operating income targets* underlying their strategies and plans.

### Target Operating Income

To illustrate target operating income calculations by asking the following question:

**How many units must the company sell to earn an operating income of \$1,200 based on the above example?** One approach is to keep plugging in different quantities and check when operating income equals \$1,200. The result shows that operating income is \$1,200 when 40 packages are sold. A more convenient approach is to use equation 1.

$$(SP \times Q) - (VCU \times Q) - \text{fixed cost} = \text{operating income...} \quad \text{Equation 1}$$

denote by  $Q$  the unknown quantity of units the company must sell to earn an operating income of \$1,200. The selling price is \$200, variable cost per package is \$120, fixed costs are \$2,000, and target operating income is \$1,200. Substituting these values into equation 1, we have:

$$(\$200 \times Q) - (\$120 \times Q) - \$2,000 = \$1,200$$

$$\$80 \times Q = \$2,000 + \$1,200 = \$3,200$$

$$Q = \$3,200 \text{ per unit} = 40 \text{ units}$$

$$\$80$$

Alternatively, we could use Equation 2,

$$(\text{Contribution margin} \times Q) - \text{fixed cost} = \text{operating income} \quad \text{Equation 2}$$

Given a target operating income (\$1,200 in this case), we can rearrange terms to get Equation 4.

$$Q = \frac{\text{Fixed costs} + \text{Target operating income.....}}{\text{Contribution margin per unit}} \quad \text{Equation 4}$$

$$Q = \frac{\$2,000 + \$1,200}{\$80 \text{ per unit}} = 40 \text{ units}$$

$$\$80 \text{ per unit}$$

The revenues needed to earn an operating income of \$1,200 can also be calculated directly by recognizing

- 2 that \$3,200 of contribution margin must be earned (fixed costs of \$2,000 plus operating income of

\$1,200) and (2) that \$1 of revenue earns \$0.40 (40 cents) of contribution margin. To earn \$3,200 of contribution margin, revenues must equal  $\$3,200 \div 0.40 = \$8,000$ .

### Target Net Income and Income Taxes

**Net income** is operating income plus non-operating revenues (such as interest revenue) minus non-operating costs (such as interest cost) minus income taxes. For simplicity, throughout this chapter **we assume non-operating revenues and non-operating costs are zero**. Thus,

$$\text{Net income} = \text{Operating income} - \text{Income taxes}$$

In many companies, the income targets for managers in their strategic plans are expressed in terms of net income. That's because top management wants subordinate managers to take into account the effects their decisions have on operating income after income taxes. Some decisions may not result in large operating incomes, but they may have favorable tax consequences, making them attractive on a net income basis—the measure that drives shareholders' dividends and returns.

To make net income evaluations, CVP calculations for target income must be stated in terms of *target net income* instead of *target operating income*. For example, the company may be interested in knowing the quantity of units it must sell to earn a net income of \$960, assuming an income tax rate of 40%.

$$\begin{aligned} \text{Target net income} &= (\text{target operating income}) - (\text{target operating income} \times \text{tax rate}) \\ &= \text{target operating income} \times (1 - \text{tax rate}) \end{aligned}$$

$$\text{Target operating income} = \text{Target net income} \div (1 - \text{Tax rate}) = \$960 \div (1 - 0.40) = \$1,600$$

$$1 - \text{Tax rate} = 1 - 0.40$$

*The key step is to take the target net income number and convert it into the corresponding target operating income number.* We can then use Equation 1 for target operating income and substitute numbers from our previous example.

$$(\$200 \times Q) - (\$120 \times Q) - \$2,000 = \$1,600$$

$$\$80 \times Q = \$3,600$$

$$Q = \$3,600 / \$80 \text{ per unit} = 45 \text{ units: Quantity of units required to be sold}$$

Focusing the analysis on target net income instead of target operating income will not change the breakeven point. That's because, by definition, operating income at the breakeven point is \$0, and no income taxes are paid when there is no operating income.

## Using CVP Analysis for Decision Making

Managers also use CVP analysis to guide other decisions, many of them strategic decisions. Consider a decision about choosing additional features for an existing product. Different choices can affect selling prices, variable cost per unit, fixed costs, units sold, and operating income. CVP analysis helps managers make product decisions by estimating the expected profitability of these choices.

Strategic decisions invariably entail risk. CVP analysis can be used to evaluate how operating income will be affected if the original predicted data are not achieved—say, if sales are 10% lower than estimated. Evaluating this risk affects other strategic decisions a company might make. For example, if the probability of a decline in sales seems high, a manager may take actions to change the cost structure to have more variable costs and fewer fixed costs.

We return to our previous example to illustrate how CVP analysis can be used for strategic decisions concerning advertising and the selling price.

### I. Decision to Advertise

Suppose the company anticipates selling 40 units at the fair. The data indicate that the company's operating income will be \$1,200. It is considering placing an advertisement describing the product and its features in the fair brochure. The advertisement will be a fixed cost of \$500. It thinks that advertising will increase sales by 10% to 44 packages.

Should the company advertise? The following table presents the CVP analysis.

	40 Packages Sold with No Advertising (1)	44 Packages Sold with Advertising (2)	Difference (3) = (2) - (1)
Revenues (\$200 * 40; \$200 * 44)	\$8,000	\$8,800	\$ 800
Variable costs (\$120 * 40; \$120 * 44)	4,800	5,280	480
Contribution margin (\$80 * 40; \$80 * 44)	3,200	3,520	320
Fixed costs	2,000	2,500	500
Operating income	\$1,200	\$1,020	\$(180)

**Decision:** Operating income will decrease from \$1,200 to \$1,020, so it should not advertise.

**By Function:** A cost may be required to be determined functions like manufacturing, selling, research etc. and on this basis functional costs may be classified:

**Production Cost:** It is the cost of all the items involved in the production of a product or service. It refers to the cost incurred from the purchasing of raw materials to the packaging of the product.

**Administration Cost:** Expenses which are incurred for general management of an organization. These are in nature of indirect cost and are also termed as administrative overheads. Administration cost includes indirect expenses like salaries of office staff, accountants and directors, rent, rates and depreciation of building, postage and telephone.

**Selling and Distribution Cost:** Selling costs are related to selling of products and services and include all indirect costs in sales management for the organization. Distribution costs are the costs that have occurred due to handling of the products from the time it is completed till it reaches the final consumer. Selling and Distribution cost includes, salaries and commission of salesmen, and sales manager, expenses of advertisement, rent of showroom, etc. all the expenses related towards sales are included in the selling and distribution cost.

**Research and Development Cost:** It is the cost for undertaking research to improve quality of a present product or improve process of manufacturing, develop products etc.

### Methods and Techniques of Costing

The methods of costing are referred to the techniques and process employed in the ascertainment of costs. The method of costing to be applied in a concern depends upon the type and nature of manufacturing activity.

- **Job Costing:** Job costing is also known as Specific Order Costing or Production order Costing or Job lot costing. This method is undertaken where the work is undertaken as per customer's specific requirements. A job, big or small comprises of a specific quality of a product or service to be provided as per customers specifications. This method is used in printing repair shops, interior decorations, painting etc.
- **Contract Costing:** Contract Costing is a variation of job costing and principles of job costing is applied to this method. The cost unit here is a

contract which is of a long duration and may continue over more than one year. It is used in construction of roads, dams, ships, buildings etc.

- **Batch Costing:** The cost of a batch of identical products is ascertained and each batch of products is a cost unit for which costs are ascertained. This method is used in production of cars, toys, readymade garments, shoes etc.
- **Process Costing:** Process Costing is used in mass production and in continuous processes of manufacturing, Costs are accumulated for each process or department. To arrive at a cost per unit, the total cost of a process is divided by the number of units produced. The finished product of one process is transferred to the next process until the final product is manufactured. Examples: chemical works, sugar mills, soap manufacturing, textile mills etc.
- **Operating Cost:** In this method a refinement and a more detailed application of process is involve in costing. A process consists of number of operations. This process analysis minute costs and ensure greater accuracy and better control.

**Techniques of Costing:** Along with different methods of costing the following techniques are used to ascertain cost:

- **Historical Costing:** The actual costs are ascertained only after they have been incurred. This is a conventional method of cost ascertainment.
- **Absorption Costing:** It is a traditional method where both the fixed and variable methods are charged to product. This is incomplete contrast to marginal costing where only variable costs are charged to products. Until recently this was the only technique used by cost accountants, now a days it has many restrictions.
- **Marginal Costing:** Marginal Cost separates fixed cost and variable cost. It regards only variable cost as the cost of products and fixed cost is treated as period cost. This technique helps and guides management in taking various policy decision under different conditions of business such as decision regarding the pricing of the product, suspension or continuance of a particular product etc.

- **Standard Costing:** The ascertainment and use of standard costs and measurement and analysis of variances. Standard cost is pre-determined as target of performance and actual performance is measured against standards.
- **Uniform Costing:** The use of the same costing principles, methods and/or practices by several undertakings with a view to achieve uniformity in approach and system.

## 2.2 Interpreting and supporting of revenues and costs.

Cost and revenue analysis refers to examining the cost of production and sales revenue of a production unit or firm under various conditions. The objective of a firm is to earn profit, and not to make losses. However, a firm's profit or loss is primarily determined by its costs and revenue.

### 2.2.1 Concept of Revenue

Revenue is the money generated from normal business operations, calculated as the average sales price times the number of units sold. It is the top line (or gross income) figure from which costs are subtracted to determine net income. Revenue is also known as sales on the income statement.

#### Cost of Revenue

The term cost of revenue refers to the total cost of manufacturing and delivering a product or service to consumers. Cost of revenue information is found in a company's income statement. It is designed to represent the direct costs associated with the goods and services the company provides. The service industry often favors using the cost of revenue metric because it is a more comprehensive account of the various costs associated with selling a good or service.

### 2.2.3 Cost of Revenue Works

Cost of revenue is the total cost incurred to produce and sell a product or service. It includes all the costs associated with the production process, such as raw materials, labor, and overhead expenses. It also includes any other direct costs related to the production and delivery of the product or service.

Cost of revenue is important for businesses because it helps them determine their true gross profit margin. Companies should be interested in know how much residual revenue is left over after all costs of making and selling a product have been

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incurred. This residual profit is used to pay overhead or indirect costs still vital to the operation of the company but not directly tied to making a product.

### **Formula and Calculation of Cost of Revenue**

The formula for the cost of revenue is:

**Cost of Revenue = COGS + Shipping Costs + Commissions + Warranties + Returns + Other Direct Costs**

### **Concept of Cost behavior**

A cost may stay the same or may change proportionately in response to a change in activity, it is important to know how a cost reacts to a change in the level of activity so that it is easier to

- Create a budget
- Prepare a forecast
- Determine how much profit a new product will generate
- Determine which of two alternatives should be selected

## Self check - 2

1. Which of the following best describes "variable costs" in the context of business expenses?
  - A. Costs that remain constant regardless of production levels.
  - B. Costs that vary proportionally with changes in production or activity.
  - C. Costs associated with long-term investments.
  - D. Costs incurred only in the short term.
1. variable Costs:
  - A. Costs that remain constant regardless of production levels.
  - B. Costs that vary proportionally with changes in production or activity.
  - C. Costs associated with long-term investments.
  - D. Costs incurred only in the short term.
2. Fixed Costs:
  - A. Costs that remain constant regardless of production levels.
  - B. Costs that vary proportionally with changes in production or activity.
  - C. Costs associated with long-term investments.
  - D. Costs incurred only in the short term.
3. Operating Costs:
  - A. Costs that remain constant regardless of production levels.
  - B. Costs that vary proportionally with changes in production or activity.
  - C. Costs associated with long-term investments.
  - D. Costs incurred only in the short term.
4. Sunk Costs:
  - A. Costs that remain constant regardless of production levels.
  - B. Costs that vary proportionally with changes in production or activity.
  - C. Costs associated with long-term investments.
  - D. Costs incurred only in the short term.
5. Opportunity Costs:
  - A. Costs that remain constant regardless of production levels.
  - B. Costs that vary proportionally with changes in production or activity.
  - C. Costs associated with long-term investments.

D. Costs incurred only in the short term.

**Part II: workout question**

1. The Express Banquet has two restaurants that are open 24-hours a day. Fixed costs for the two restaurants together total \$459,000 per year. Service varies from a cup of coffee to full meals. The average sales check per customer is \$8.50. The average cost of food and other variable costs for each customer is \$3.40. The income tax rate is 30%. Target net income is \$107,100.
  - A. Compute the revenues needed to earn the target net income.
  - B. How many customers are needed to break even? To earn net income of \$107,100?
  - C. Compute net income if the number of customers is 170,000.
2. Suppose Doral Corp.'s breakeven point is revenues of \$1,100,000. Fixed costs are \$660,000.
  - A. Compute the contribution margin percentage.
  - B. Compute the selling price if variable costs are \$16 per unit.
  - C. Suppose 95,000 units are sold. Compute the margin of safety in units and dollars.
3. Garrett Manufacturing sold 410,000 units of its product for \$68 per unit in 2011. Variable cost per unit is \$60 and total fixed costs are \$1,640,000.
  - A. Calculate: (i) contribution margin and (ii) operating income.
  - B. Garrett's current manufacturing process is labor intensive. Kate Schoenen, Garrett's production manager, has proposed investing in state-of-the-art manufacturing equipment, which will increase the annual fixed costs to \$5,330,000. The variable costs are expected to decrease to \$54 per unit. Garrett expects to maintain the same sales volume and selling price next year. How would acceptance of Schoenen's proposal affect your answers to (i) and (ii) in requirement A?
  - C. Should Garrett accept Schoenen's proposal? Explain.
4. Color Rugs are holding a two-week carpet sale at Jerry's Club, a local warehouse store. Color Rugs plans to sell carpets for \$500 each. The company will purchase the carpets from a local distributor for

\$350 each, with the privilege of returning any unsold units for a full refund. Jerry's Clubhas offered Color Rugs two payment alternatives for the use of space.

- Option 1: A fixed payment of \$5,000 for the sale period
- Option 2: 10% of total revenues earned during the sales period
- Assume Color Rugs will incur no other costs.

A. Calculate the breakeven point in units for (a) option 1 and (b) option2

B. At what level of revenues will Color Rugs earn the same operating income under either option?

a. For what range of unit sales will Color Rugs prefer option 1?

b. For what range of unit sales will Color Rugs prefer option 2?

C. Calculate the degree of operating leverage at sales of 100 units for the two rental options.

D. Briefly explain and interpret your answer to requirement 3.

Part – III: Demonstration question

A. Briefly explain and interpret your answer to requirement?

B. Write the formula or steps of COGM AND COGS?

### Unit Three: Prepare Budgeted Reports

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This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Budget Cost information
- Budgets Reports
- Budget variances
- Error Free Reports

This Unit will also assist you to attain the learning outcomes stated in the cover page.

The completion of this learning guide, you will be able to:

- To assess cost information advice.
- Structure and format of budgets and reports.
- To conform Structure and format of budgets and reports to management information Requirements.
- Prioritize variances against budget making report error free.

## .1 Budget Cost information

Budget cost information refers to the financial details and estimates associated with a project, program, or business activity. This information is crucial for effective financial management and planning. Here are some key aspects of budget cost information. Budget is a formal, detailed financial plan that outlines the estimated expenses and revenues over a specific period. It serves as a roadmap for allocating resources and helps in tracking and controlling expenditures.

Types of Budgets:

**Operating Budget:** Focuses on day-to-day expenses such as salaries, utilities, and materials.

**Capital Budget:** Deals with long-term investments like purchasing equipment or property.

**Cash Budget:** Manages cash flow, ensuring there is enough liquidity to cover expenses.

Components of Budget Cost Information:

- **Income/Revenue:** Projected earnings from sales, services, or other sources.
- **Expenses:** Anticipated costs associated with operations, production, marketing, etc.
- **Profits/Losses:** The difference between income and expenses.
- **Budget Variances:** Differences between budgeted and actual figures.
- **Budgeting Process:**
  - **Estimation:** Projecting future income and expenses based on historical data and market trends.
  - **Authorization:** Formal approval of the budget by relevant stakeholders.
  - **Monitoring:** Regularly tracking actual financial performance against the budget.
  - **Adjustment:** Modifying the budget based on changes in circumstances or unforeseen events.

Importance of Budget Cost Information:

- **Helps in allocating resources efficiently based on priority.**

- Provides a basis for evaluating the financial performance of an organization.
- Assists in making informed decisions about investments, cost-cutting, and business strategies.

Budgeting Tools:

- Excel, Google Sheets, etc., are commonly used for creating and managing budgets.
- Specialized tools like QuickBooks, SAP, or Oracle for more complex financial management.

Challenges:

- External factors like economic conditions can affect budget accuracy.
- Shifting business priorities may require adjustments to the budget.
- Ensuring that the budget is adhered to and deviations are addressed promptly.

## .2 Budgets reports

Budget reports are documents that provide detailed information on the financial aspects of an organization, project, or activity. These reports compare actual financial performance against the budgeted or planned figures, offering insights into how well an entity is managing its resources. Here are key elements and types of budget reports:

Choosing the Budget Period (Generally fiscal years)

### Budget vs. Actual Reports:

- Compares actual income and expenses to the budgeted amounts.
- Identifies variations (variances) between planned and actual financial performance.
- Helps in understanding why variations occurred and how they affects overall financial health.

### Income Statement:

- Summarizes revenues, costs, and expenses over a specific period.
- Shows the profitability of an organization.
- Highlights areas where actual performance deviates from the budget.

#### **Cash Flow Statements:**

- Details cash inflows and outflows during a specific period.
- Indicates the organization's ability to meet its short-term obligations.
- Assesses whether the organization is generating sufficient cash to cover its expenses.

#### **Expense Reports:**

- Breaks down actual expenses by category compared to the budget.
- Identifies areas of overspending or cost savings.
- Helps in controlling costs and making adjustments for future budget periods.

#### **Variance Analysis Reports:**

- Provides a detailed analysis of the differences between budgeted and actual figures.
- Helps management understand the reasons behind variances.
- Facilitates informed decision-making to address issues and improve future budgeting.

#### **Forecast Reports:**

- Projects future financial performance based on current trends.
- Assists in proactive decision-making by anticipating potential challenges or opportunities.

#### **Advantages of Budgets**

Budget reports offer several advantages for organizations, providing valuable insights into financial performance and aiding in effective decision-making. Here are some key advantages of budget reports:

- Performance Evaluation
- Financial Control.
- Resource Allocation
- Strategic Planning
- Alignment with Strategy
- Decision-Making Support
- Cost Control

- Profitability Analysis
- Risk Management
- Communication Tool
- Stakeholder Communication
- Motivating Employees
- Continuous Improvement
- Learning from Variances
- Crisis Preparedness
- Early Warning System
- Investor Confidence
- Legal and Regulatory Compliance

**The master budget** expresses the managements' operating and financial plan for a specified period and it includes a set of budgeted financial statements.

#### **Components of Master Budgets**

- **Operating Budget** – building blocks leading to the creation of the Budgeted Income Statement
- **Financial Budget** – building blocks based on the Operating Budget that led to the creation of the Budgeted Balance Sheet and the Budgeted Statement of Cash Flows

#### **Basic Operating Budget Steps include; prepare the:**

- Revenues Budget
- Production Budget (in Units)
- Direct Materials Usage Budget and Direct Materials Purchases Budget
- Direct Manufacturing Labor Budget
- Manufacturing Overhead Costs Budget
- Ending Inventories Budget
- Cost of Goods Sold Budget
- Operating Expense (Period Cost) Budget
- Budgeted Income Statement

#### **Basic Financial Budget Steps**

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Based on the Operating Budgets: prepare the;

- A. Capital Expenditures Budget
- B. Cash Budget
- C. Budgeted Balance Sheet
- D. Budgeted Statement of Cash Flows

### Budgeting Example

Royal Company is manufacturing business, which produces and sold product X to its existing and new customers. The company is preparing budgets for the quarter ending June 30, 2017.

Budgeted sales for the next five months will be:

April	20,000 units
May	50,000 units
June	30,000 units
July	25,000 units
August	15,000 units.

The selling price is \$10 per unit. So based on the given information prepare the sales (revenue) budget for the quarter end June 30, 2017.

Table 2. 1 sales budget

				Quarter
Budgeted				
sales (units)	20,000	50,000	30,000	100,000
per unit	\$1	\$10	\$10	\$10
Total sales	<u>\$ 200,000</u>	<u>\$ 500,000</u>	<u>\$ 300,000</u>	\$ 1,000,000

All sales are on account. Royal's collection pattern is:

- 70% collected in the month of sale, 25% collected in the month following sale, 5% is uncollectible.
- The March 31 accounts receivable balance of \$30,000 will be collected in full.

Table 3. 1 Expected Cash Collections

	April	May	June	Quarter
Accounts rec. - 3/31	\$ 30,000			\$30,000
April sales				
70% x \$200,000	140,000			140,000
25% x \$200,000	\$ 50,000			50,000
May sales				
70% x \$500,000	350,000			350,000
25% x \$500,000	\$ 125,000			125,000
June sales				
70% x \$300,000		210,000		210,000
Total cash collections	\$ 170,000	\$ 400,000	\$ 335,000	\$ 905,000

**Note:** The 25% of June sales (\$75,000) to be collected in July becomes the Accounts Receivable balance at the end of June.

#### The Production Budget information

- Production must be adequate to meet budgeted sales and provide for sufficient ending inventory.
- The management at Royal Company wants ending inventory to be equal to 20% of the following month's budgeted sales in units. This is how much inventory that is required to meet production needs in the next period.
- On March 31, 4,000 units were on hand.

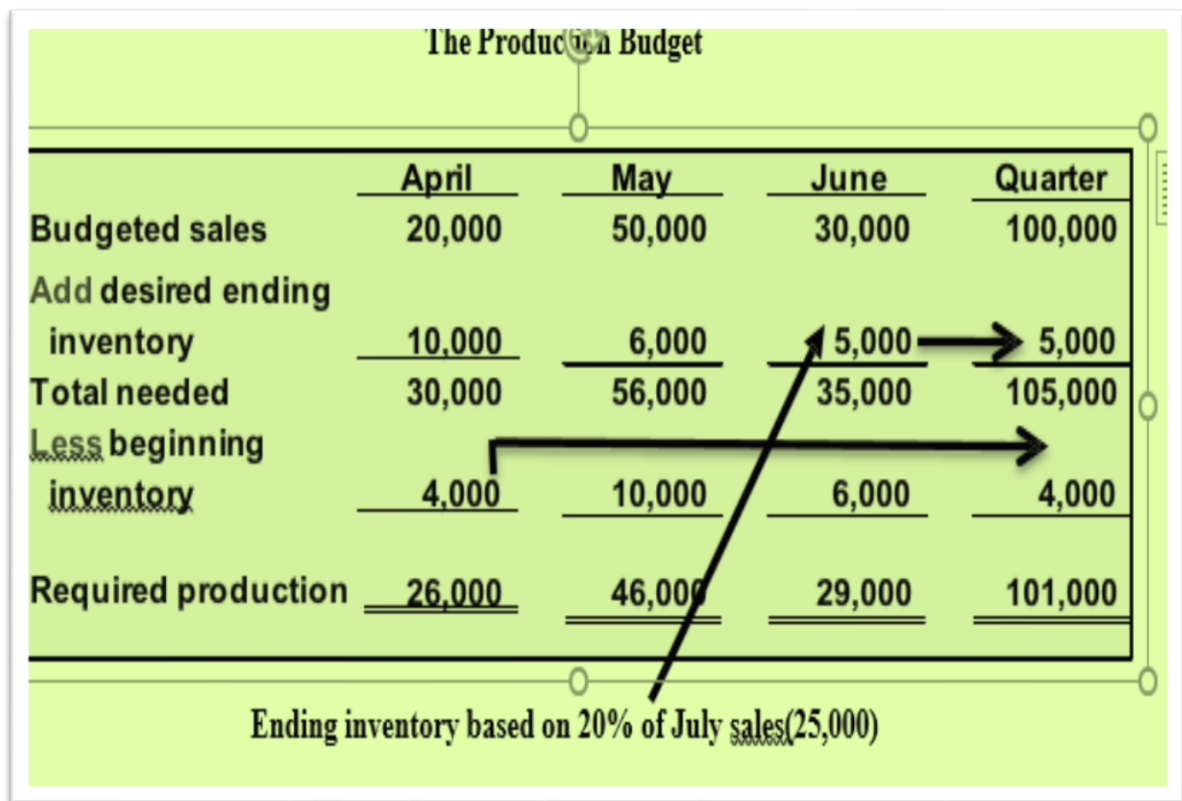


Figure 3. 1 Production budget

### Manufacturing Cost Budgets

Now that we know production needs, we need to determine how much material; labor and overhead will be required to meet those needs.

- To determine cost of goods manufactured, we also need to know ending WIP inventory.

### The Direct Materials Budget information

- At Royal Company, five pounds of material are required per unit of product.
- Management wants materials on hand at the end of each month equal to 10% of the following month's production.

On March 31, 13,000 pounds of material are on hand. Material cost is \$0.40 per pound.

The Direct Materials Budget				
	April	May	June	Quarter
Production	26,000	46,000	29,000	101,000
Materials per unit	5	5	5	5
Production needs	130,000	230,000	145,000	505,000
Add desired ending inventory	23,000	14,500	11,500	11,500
Total needed	153,000	244,500	156,500	516,500
Less beginning inventory	13,000	23,000	14,500	13,000
Materials to be purchased	140,000	221,500	142,000	503,500
Material cost per unit	\$0.4	\$0.4	\$0.4	\$0.4
Material cost	\$56,000	\$88,600	\$56,800	\$201,400

Ending inventory will be 10% of July production needs

Figure 3. 2 Direct material budget

#### Expected Cash Disbursement for Materials

- Royal pays \$0.40 per pound for its materials.
- One-half of a month's purchases are paid for in the month of purchase; the other half is paid in the following month. The March 31 accounts payable balance is \$12,000.

### Expected Cash Disbursement for Materials

	<u>April</u>	<u>May</u>	<u>June</u>	<u>Quarter</u>
Accounts pay. 3/31	\$ 12,000			\$ 12,000
April purchases				
50% x \$56,000	28,000			28,000
50% x \$56,000		\$ 28,000		28,000
May purchases				
50% x \$88,600		44,300		44,300
50% x \$88,600			\$ 44,300	44,300
June purchases				
50% x \$56,800			28,400	28,400
Total cash				
disbursements	<u>\$ 40,000</u>	<u>\$ 72,300</u>	<u>\$ 72,700</u>	<u>\$ 185,000</u>

**Note:** The 50% of June purchases payable in July (\$28,400) is the Accounts Payable balance at

Figure 3. 3 Expected cash disbursement for materials

### The Direct Labor Budget

- At Royal, each unit of product requires 0.05 hours of direct labor.
- The Company has a “no layoff” policy so all employees will be paid for 40 hours of work each week. In exchange for the “no layoff” policy, workers agreed to a wage rate of \$10 per hour regardless of the hours worked (No overtime pay).
- For the next three months, the direct labor workforce will be paid for a minimum of 1,500hours per month.

	<u>April</u>	<u>May</u>	<u>June</u>	<u>Quarter</u>
Production	26,000	46,000	29,000	101,000
Direct labor hours	<u>0.05</u>	<u>0.05</u>	<u>0.05</u>	<u>0.05</u>
Labor hours required	1,300	2,300	1,450	5,050
Guaranteed labor hours	<u>1,500</u>	<u>1,500</u>	<u>1,500</u>	
Labor hours paid	1,500	2,300	1,500	5,300
Wage rate	<u>\$ 10</u>	<u>\$ 10</u>	<u>\$ 10</u>	<u>\$ 10</u>
Total direct labor cost	\$ 15,000	\$ 23,000	\$ 15,000	\$ 53,000

**Note:** Cash disbursement equals total direct labor cost since it is paid in period earned

Figure 3. 4 direct labor budget

#### Manufacturing Overhead Budget

- Royal Company uses a variable manufacturing overhead rate of \$1 per unit produced.
- Fixed manufacturing overhead is \$50,000 per month and includes \$20,000 of noncash costs (primarily depreciation of plant assets).

	<u>April</u>	<u>May</u>	<u>June</u>	<u>Quarter</u>
Production in units	26,000	46,000	29,000	101,000
Variable mfg. OH rate	<u>\$ 1</u>	<u>\$ 1</u>	<u>\$ 1</u>	<u>\$ 1</u>
Variable mfg. OH costs	\$ 26,000	\$ 46,000	\$ 29,000	\$ 101,000
Fixed mfg. OH costs	<u>50,000</u>	<u>50,000</u>	<u>50,000</u>	<u>150,000</u>
Total mfg. OH costs	<u>76,000</u>	<u>96,000</u>	<u>79,000</u>	<u>251,000</u>
Less noncash costs	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>60,000</u>
Cash disbursements for manufacturing OH	<u>\$ 56,000</u>	<u>\$ 76,000</u>	<u>\$ 59,000</u>	<u>\$ 191,000</u>

**Note:** - depreciation is non-cash expense

Figure 3. 5 Manufacturing Overhead Budget

### Ending Finished Goods Inventory Budget

- Now, Royal can complete the ending finished goods inventory budget.
- At Royal, manufacturing overhead is applied to units of product on the basis of direct labor hours.

<b>Ending Finished Goods Inventory Budget</b>			
<u>Production costs per unit</u>	<u>Quantity</u>	<u>Cost</u>	<u>Total</u>
Direct materials	5.00 lbs.	\$ 0.40	\$ 2.00
Direct labor	0.05 hrs.	\$ 10.00	0.50
Manufacturing overhead	0.05 hrs.	\$ 49.70	2.49
			<u>\$ 4.99</u>
<b>Budgeted finished goods inventory</b>			
Ending inventory in units			
Unit product cost			<u>\$ 4.99</u>
Ending finished goods inventory			<u>?</u>

Total mfg. OH for quarter	\$251,000
Total labor hours required	5,050 hrs
(from DL budget & MOH budget)	

				\$49.70/hr
<u>Production costs per unit</u>	<u>Quantity</u>	<u>Cost</u>	<u>Total</u>	
Direct materials	5.00 lbs.	\$ 0.40	\$ 2.00	
Direct labor	0.05 hrs.	\$ 10.00	0.50	
Manufacturing overhead	0.05 hrs.	\$ 49.70	2.49	
			<u>\$ 4.99</u>	
<b>Budgeted finished goods inventory</b>				
Ending inventory in units				5,000
Unit product cost			<u>\$ 4.99</u>	
Ending finished goods inventory			<u>\$ 24,950</u>	

Figure 3. 6 Ending Finished Goods Inventory Budget

	<u>April</u>	<u>May</u>	<u>June</u>	<u>Quarter</u>
Budgeted sales	20,000	50,000	30,000	100,000
Variable selling and admin. rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50
Variable expense	\$ 10,000	\$ 25,000	\$ 15,000	\$ 50,000
Fixed selling and admin. expense	70,000	70,000	70,000	210,000
Total expense	<u>80,000</u>	<u>95,000</u>	<u>85,000</u>	<u>260,000</u>
Less noncash expenses	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>	<u>30,000</u>
Cash disbursements for selling & admin.	<u>\$ 70,000</u>	<u>\$ 85,000</u>	<u>\$ 75,000</u>	<u>\$ 230,000</u>

**The Cash Budget**

Figure 3. 7 cash disbursement for selling and administrative expense

## Cash budget

Royal:

- Maintains a 16% open line of credit for \$75,000.
- Maintains a minimum cash balance of \$30,000.
- Borrows on the first day of the month and repays loans on the last day of the month.
- Pays a cash dividend of \$49,000 in April.
- Purchases \$143,700 of equipment in May and \$48,300 in June paid in cash.
- Has an April 1 cash balance of \$40,000.

	April	May	June	Quarter
Beginning cash balance	\$ 40,000			
Add cash collections	170,000			
Total cash available	210,000			
Less disbursements				
Materials	40,000			
Direct labor	15,000			
Mfg. overhead	56,000			
Selling and admin.	70,000			
Equipment purchase	-			
Dividends	49,000			
Total disbursements	230,000			
Excess (deficiency) of cash available over disbursements	\$ (20,000)			

Figure 3. 8 cash available over disbursements

Because the company maintains a cash balance of \$30,000, the company must borrow on its line of credit. **Financing and Repayment.**

	April	May	June	Quarter
<b>Excess (deficiency) of Cash available over disbursements</b>	<b>\$ (20,000)</b>			
<b>Financing:</b>				
Borrowing	50,000			
Repayments	-			
Interest	-			
<b>Total financing</b>	<b>50,000</b>			
<b>Ending cash balance</b>	<b>\$ 30,000</b>	<b>\$ 30,000</b>	<b>\$ -</b>	<b>\$ -</b>

Ending cash balance for April is the beginning May balance.

	April	May	June	Quarter
<b>Beginning cash balance</b>	<b>\$ 40,000</b>	<b>\$ 30,000</b>		
<b>Add cash collections</b>	<b>170,000</b>	<b>400,000</b>		
<b>Total cash available</b>	<b>210,000</b>	<b>430,000</b>		
<b>Less disbursements</b>				
Materials	40,000	72,300		
Direct labor	15,000	23,000		
Mfg. overhead	56,000	76,000		
Selling and admin.	70,000	85,000		
Equipment purchase	-	143,700		
Dividends	49,000	-		
<b>Total disbursements</b>	<b>230,000</b>	<b>400,000</b>		
<b>Excess (deficiency) of cash available over disbursements</b>	<b>\$ (20,000)</b>	<b>\$ 30,000</b>		

Financing and Repayment				
	April	May	June	Quarter
<b>Excess (deficiency) of Cash available over disbursements</b>	<b>\$ (20,000)</b>	<b>\$ 30,000</b>		
<b>Financing:</b>				
Borrowing	50,000	-		
Repayments	-	-		
Interest	-	-		
<b>Total financing</b>	<b>50,000</b>	<b>-</b>		
<b>Ending cash balance</b>	<b>\$ 30,000</b>	<b>\$ 30,000</b>		

Figure 3. 9 ending cash balance

Note: -Because the ending cash balance is exactly \$30,000, Royal will not repay the loan this month

The cash budget				
	April	May	June	Quarter
Beginning cash balance	\$ 40,000	\$ 30,000	\$ 30,000	\$ 40,000
Add cash collections	170,000	400,000	335,000	905,000
Total cash available	210,000	430,000	365,000	945,000
Less disbursements				
Materials	40,000	72,300	72,700	185,000
Direct labor	15,000	23,000	15,000	53,000
Mfg. overhead	56,000	76,000	59,000	191,000
Selling and admin.	70,000	85,000	75,000	230,000
Equipment purchase	-	143,700	48,300	192,000
Dividends	49,000	-	-	49,000
Total disbursements	230,000	400,000	270,000	900,000
Excess (deficiency) of cash available over disbursements	\$ (20,000)	\$ 30,000	\$ 95,000	\$ 45,000
Financing and repayment				
	April	May	June	Quarter
Excess (deficiency) of Cash available over disbursements	\$ (20,000)	\$ 30,000	\$ 95,000	\$ 45,000
Financing:				
Borrowing	50,000	-	-	50,000
Repayments	-	-	(50,000)	(50,000)
Interest	-	-	(2,000)	(2,000)
Total financing	50,000	-	(52,000)	(2,000)
Ending cash balance	\$ 30,000	\$ 30,000	\$ 43,000	\$ 43,000

Figure 3. 10 cash budget

**Note:** -  $\$50,000 \times 16\% \times 3/12 = \$2,000$  Borrowings on April 1 and repayment of June 30.

The Budgeted Income Statement	
After we complete the cash budget, we can prepare the budgeted income statement for Royal based on the information available from the above budgets.	
Royal Company Budgeted Income Statement For the Three Months Ended June 30	
Sales (100,000 units @ \$10)	\$ 1,000,000
Cost of goods sold (100,000 @ \$4.99)	499,000
Gross margin	501,000
Selling and administrative expenses	260,000
Operating income	241,000
Interest expense	2,000
Net income	\$ 239,000

Figure 3. 11 budgeted income statement

### The Budgeted Balance Sheet

Royal reported the following account balances prior to preparing its budgeted financial statements:

- Land - \$50,000
- Common stock - \$200,000
- Retained earnings - \$146,150
- Equipment - \$175,000
- Add 143,700 in May and 48,300 in June for ending balance of \$367,000

The budgeted balance sheet is prepared based on the information available from both operational and financial budgets.

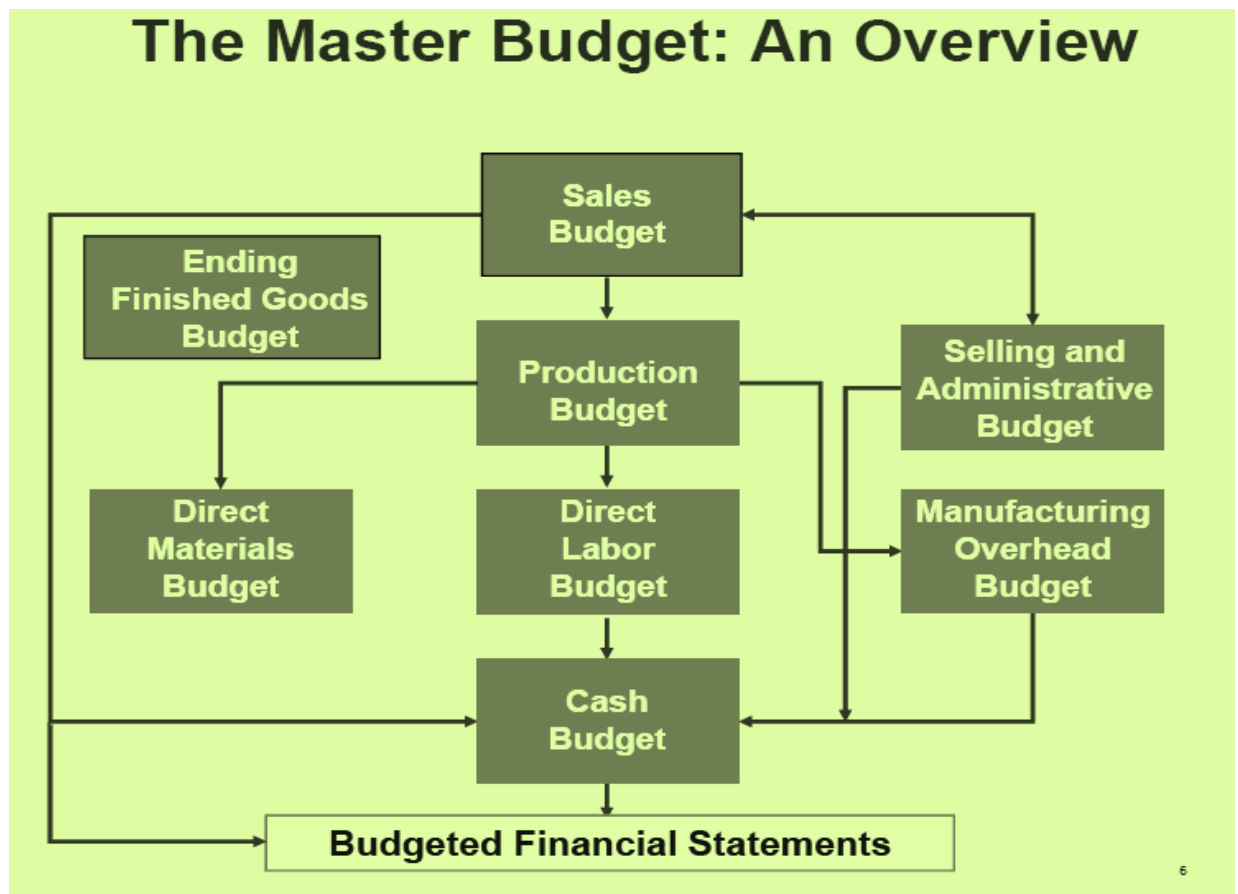


Figure 3. 12 master budget

### 3.3 Budgeted variance

Budget variance refers to the difference between the budgeted or planned financial outcomes and the actual results. It is a measure of how well an organization is managing its financial resources compared to what was initially projected. Analyzing budget variances helps identify areas of success, potential issues, and opportunities for improvement. Here are key aspects related to budget variance:

#### Types of Budget Variances:

- **Favorable Variances:** When actual results exceed budgeted amounts in a positive way. For example, higher-than-expected sales revenue or lower-than-expected expenses.
- **Unfavorable Variances:** Instances where actual results fall short of budgeted amounts, negatively influencing financial performance. This could include lower revenue or higher expenses than planned.

#### Variance Analysis:

- **Revenue Variances:** Analyzing differences between actual and budgeted revenue.
- **Expense Variances:** Examining variations in different expense categories.
- **Profit Variances:** Understanding how variations in revenue and expenses influences overall profitability.

#### Causes of Budget Variances:

- **External Factors:** Economic conditions, changes in market dynamics, or shifts in customer behavior.
- **Internal Factors:** Operational inefficiencies, unexpected events, or changes in business strategy.
- **Inaccurate Budgeting:** Flaws in the budgeting process, such as inaccurate assumptions or estimates.

#### Significance of Budget Variances:

- **Performance Evaluation:** Variances indicate how well the organization is meeting its financial goals. Positive variances may signal effective management, while negative variances may highlight areas for improvement.

- **Decision-Making Insights:** Understanding the causes of variances provides insights for making informed decisions about resource allocation, strategy adjustments, or corrective actions.

#### **Variance Reporting:**

- **Regular Reporting:** Variances are typically reported regularly, such as monthly or quarterly, to keep stakeholders informed about financial performance.
- **Format:** Reports may include tables, charts, and narrative explanations to present variance analysis in a clear and understandable manner.

#### **Responsibility for Variances:**

- **Departmental Responsibility:** Variances are often tracked at the department or team level to hold specific areas accountable for their financial performance.
- **Management Action:** When significant variances occur, management may take corrective actions to address issues or capitalize on positive trends.

#### **Variance Thresholds:**

- **Materiality:** Organizations may establish materiality thresholds to determine which variances require management attention. Smaller variances may be considered within an acceptable range.

#### **Continuous Improvement:**

- **Learning from Variances:** Variances provide opportunities for learning and continuous improvement. Organizations can adjust future budgets based on insights gained from variance analysis.

#### **Benchmarking:**

- **Comparisons over Time:** Variances can be compared over different periods to identify trends and assess whether the organization is improving its budgeting and financial management processes.

#### **Communication:**

- **Stakeholder Communication:** Clear communication about variances is crucial for maintaining transparency with stakeholders, including executives, investors, and employees.

In summary, budget variance analysis is a vital tool for assessing and managing financial performance. It helps organizations understand the reasons behind deviations from

planned outcomes, enabling them to make informed decisions and adjustments for better financial management in the future.

### **.3 Error free reports**

While achieving completely error-free budget reports may be challenging, organizations can take several measures to minimize errors and enhance the accuracy of their financial reporting. Here are some strategies to strive for error-free budget reports:

#### **Robust Budgeting Process:**

- Develop a thorough and well-documented budgeting process that involves key stakeholders.
- Clearly define roles and responsibilities to ensure that individuals involved in budget creation and reporting understand their tasks.

#### **Standardized Templates:**

- Use standardized budget templates to ensure consistency and reduce the likelihood of errors during data entry.
- Implementing uniform formats makes it easier to review and analyze budget reports.

#### **Automation and Software:**

- Leverage budgeting and financial management software to automate calculations and reduce manual data entry errors.
- Automation tools can also streamline the consolidation of data from various departments or business units.

#### **Data Validation and Verification:**

- Implement robust data validation checks to catch errors during the input phase.
- Regularly verify data accuracy and consistency by cross-referencing budget figures with actual financial results.

#### **Detailed Documentation:**

- Document all assumptions, methodologies, and calculations used in the budgeting process.
- Clearly outline any adjustments made to initial estimates to ensure transparency.

#### **Training and Skill Development:**

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- Provide training to budgeting teams to enhance their financial modeling and reporting skills.
- Ensure that staff members responsible for budget creation are familiar with the organization's financial policies and procedures.

#### **Review and Approval Processes:**

- Implement a thorough review process involving multiple levels of management.
- Require formal approval of the budget by appropriate authorities to ensure accountability and oversight.

#### **Regular Reconciliation:**

- Periodically reconcile budget figures with actual results to identify and rectify discrepancies promptly.
- Conduct variance analyses to understand the reasons behind discrepancies and adjust future budgets accordingly.

#### **Internal Controls:**

- Establish internal controls to monitor the budgeting process and prevent errors.
- Assign responsibilities for reviewing and verifying budget data to different individuals or teams.

#### **Continuous Improvement:**

- Conduct post-mortem analyses after each budget cycle to identify areas for improvement.
- Use lessons learned from previous budget cycles to enhance future budgeting processes.

#### **Auditing:**

- Conduct periodic internal or external audits of the budgeting process to ensure compliance with accounting standards and regulatory requirements.
- External auditors can provide an independent perspective on the accuracy of financial reporting.

#### **Data Security:**

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- Implement secure data storage and access controls to protect budget data from unauthorized changes or tampering.
- Regularly update and back up financial data to prevent loss or corruption.

**Clear Communication:**

- Foster a culture of open communication to encourage team members to report and address errors promptly.
- Clearly communicate any changes to the budgeting process or reporting requirements.

Error reporting is the process of identifying, monitoring, and reporting errors in software solutions, mobile applications, or web services to help companies streamline both development and deployment.

## Self-check - Three

**Part I:** Say true for correct statement and false for incorrect statements

1. Information costs are expenditures of time and money that are required to obtain information.
2. Error reporting is the process of identifying, monitoring, and reporting errors only in mobile applications.
3. Creating reliable analysis is the benefit of effective error reporting.
4. Variances may occur for internal or external reasons and include human error, poor expectations, and changing business or economic conditions.
5. Budget report helps to monitor performance.
6. Static budget is an aggregation of lower-level budgets created by the different functional areas in an organization.
7. Financial budgets are usually prepared by non-profits, educational institutions, or government bodies

**Part -II: Multiple Choice**

1. What does a positive budget variance indicate?
  - A) Overspending
  - B) Underspending
  - C) Meeting budget targets
  - D) No variance
2. How is budget variance calculated?
  - A) Actual Budget - Planned Budget
  - B) Planned Budget - Actual Budget
  - C) Actual Budget x Planned Budget
  - D) There is no formula for budget variance
3. If a project has a negative budget variance, what does it suggest?
  - A) The project is ahead of schedule
  - B) The project is under budget
  - C) The project is over budget
  - D) The project is proceeding as planned

**Part -III: Demonstration Question**

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1. What is the significance of calculating budget variance for a business or project?
2. Describe the difference between a favorable and unfavorable budget variance and provide examples of each?
3. How can businesses use information from budget variance analysis to improve future financial planning?
4. Explain the concept of a percentage budget variance and its significance in financial analysis?
5. Why is it important for businesses to distinguish between controllable and uncontrollable factors when analyzing budget variances?

### Operation sheet: prepare Sale budget

**Purpose:** They work in tandem to align To Increase capacity with anticipated sales demand.

#### Requirement

- Computer
- A4 size paper
- Blue and black pen
- Excel, Google Sheets
- QuickBooks, SAP,

**Instructions:** -Prepare Sales budget and production budget

ABC Company expected sales volume: 3,000 units in the first quarter with 500-unit Increments for each following quarter.

Sales price: Br 60 per unit.

ABC Company believes it can meet future sales needs with an ending inventory of 20% of next quarter's sales.

### Operation sheet 2, Production budget

**Purpose:** They work in tandem to align production capacity with anticipated sales demand.

#### Requirement

- Computer
- A4 size paper
- Blue and black pen
- Excel, Google Sheets

ABC Company has prepared a unit sales budget for the upcoming months as follows:

Month	Units	Month	Units
January	5,000	June	..... 30,000
February	7,500	July	..... 35,000
March	10,000	August	..... 25,000
April	15,000	September	..... 10,000
May	20,000	October	..... 6,000

ABC has a policy to maintain inventory levels equal to 30% of the coming month's sales requirements. Inventory on January 1 is projected to be 1,200 units.

**Required:**

Prepare a production budget for ABC Company for the next six months.

## Unit Four: Integrating Costing System

This Unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Analyzing Actual and Applied Overheads Costs

This Unit will also assist you to attain the learning outcomes stated in the cover page. The completion of this learning guide, you will be able to:

- To analyses the variance between actual and applied overheads costs

#### 4.1 Analyzing Actual and Applied Overheads Costs

Actual overhead and applied overhead are terms often used in the context of cost accounting and manufacturing. Let's break down each concept.

Analyzing actual and applied overhead costs using an integrated cost system, you're essentially looking at the variance between what was budgeted or applied and what was actually incurred. This analysis helps organizations understand the efficiency of their operations, identify areas for improvement, and make informed decisions. Here's a step-by-step guide:

##### I. **Gather Actual Overhead Costs:**

Collect data on the actual overhead costs incurred during a specific period. This may include expenses such as utilities, maintenance, rent, and other indirect costs. Ensure that this data is accurate and comprehensive.

##### II. **Review Applied Overhead Costs:**

Retrieve information on the applied overhead costs. These costs are typically calculated using a predetermined overhead rate and the actual level of production. The predetermined overhead rate is established at the beginning of the accounting period.

##### III. **Calculate the Overhead Variance:**

Determine the variance between actual overhead costs and applied overhead costs. This variance is often broken down into two components:

A. **Variable Overhead Variance:** The difference between the actual variable overhead costs and the applied variable overhead costs.

B. **Fixed Overhead Variance:** The difference between the actual fixed overhead costs and the applied fixed overhead costs.

##### IV. **Analyze Variances:**

Investigate the reasons behind the overhead variances. Variances can be caused by factors such as changes in production levels, unexpected increases in costs, or inaccuracies in the predetermined overhead rate. This analysis can involve collaboration between accounting, production, and other relevant departments.

##### V. **Identify and Understand Causes:**

Break down the variance into its components and identify the specific causes. For example:

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- VI. **Production Volume Variance:** If the actual production level differs from the expected level, it can lead to a production volume variance.
- VII. **Efficiency Variance:** Differences in efficiency, such as higher or lower production costs per unit, can contribute to the variance.
- VIII. **Spending Variance:** Changes in the cost of inputs or overhead items can result in a spending variance.

IX. **Consider Activity-Based Costing (ABC):**

If not already implemented, consider using activity-based costing (ABC) as part of the integrated cost system. ABC provides a more accurate allocation of overhead costs based on the actual activities that drive those costs.

**Adjust Future Budgets and Rates:**

Based on the analysis, make adjustments to future budgets, predetermined overhead rates, or production plans. This could involve revising cost estimates, improving efficiency, or renegotiating supplier contracts.

**Continuous Improvement:**

Use the insights gained from the analysis to implement continuous improvement initiatives. This might involve process optimization, cost reduction strategies, or investments in technology to enhance efficiency.

**Communicate Results:**

Communicate the results of the analysis to relevant stakeholders, including management and department heads. Transparency in reporting helps foster accountability and collaboration in addressing cost variances.

**Integrate with Decision-Making:**

Ensure that the information on actual and applied overhead costs is integrated into the decision-making processes of the organization. This could include pricing decisions, product mix optimization, and resource allocation.

By integrating the analysis of actual and applied overhead costs into the broader cost system, organizations can improve their understanding of cost structures, enhance decision-making, and drive continuous improvement in operational efficiency.

#### 4.2 Actual Overhead:

Actual overhead refers to the total indirect costs that were incurred during a specific accounting period. Actual overhead includes various costs such as utilities, maintenance, depreciation, and other indirect manufacturing expenses that are not directly tied to the production of a specific unit. These costs are recorded based on the actual expenditures made by the company during the period. This could be determined through invoices, receipts, and other financial records.

#### 4.3 Applied Overhead:

Applied overhead is an estimate of the overhead costs allocated to each unit of production. Instead of using the actual costs incurred, a predetermined overhead rate is applied to the units produced. The applied overhead is calculated by multiplying the predetermined overhead rate by the actual number of units produced. The predetermined overhead rate is usually established at the beginning of the accounting period based on expected costs and production levels. Applied overhead is used in absorption costing systems to assign indirect costs to products. This helps in determining the full cost of production, including both direct and indirect costs.

#### Example

Let's consider a manufacturing company called XYZ Widgets Inc. that produces widgets. In a given accounting period, XYZ incurs various indirect costs that fall under overhead. We'll look at both actual and applied overhead in this context.

##### Actual Overhead:

XYZ Widgets Inc. pays \$10,000 in actual electricity costs for running its manufacturing facility during the accounting period. And Maintenance Expenses, Actual maintenance costs for the machinery amount to \$5,000. XYZ pays \$2,000 in property taxes for its manufacturing facility. So, the total actual overhead for XYZ Widgets Inc. during the accounting period is \$17,000 (\$10,000 + \$5,000 + \$2,000).

##### Applied Overhead:

At the beginning of the accounting period, XYZ estimates that it will produce 1,000 widgets. It estimates that the total overhead costs for the period will be \$20,000. Therefore, the predetermined overhead rate is  $\$20,000 / 1,000 \text{ widgets} = \$20 \text{ per widget}$ . During the period, XYZ actually produces 800 widgets.

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**Calculation:** The applied overhead is calculated by multiplying the predetermined overhead rate by the actual number of units produced.

**Applied Overhead** = \$20 per widget \* 800 widgets = \$16,000

So, in this example, the applied overhead is \$16,000, which is an estimate based on the predetermined overhead rate and the actual production level. This is compared to the actual overhead costs incurred, which were \$17,000. The difference between applied and actual overhead (\$17,000 - \$16,000 = \$1,000) may be adjusted for in future periods to better align the estimated overhead with the actual costs incurred. This process helps in refining the accuracy of cost allocation for future production.

## Self check - Four

### Part – I: Multiple Choice

2. XYZ Company uses a predetermined overhead rate based on machine hours to apply overhead costs to its products. At the beginning of the year, the company estimated total overhead costs to be \$150,000, and machine hours to be 10,000. During the year, actual overhead costs amounted to \$160,000, and the actual machine hours worked were 12,000. What is the variance between actual and applied overhead costs?
  - A. \$10,000 favorable
  - B. \$10,000 unfavorable
  - C. \$20,000 favorable
  - D. \$20,000 unfavorable
3. ABC Inc. uses a predetermined overhead rate of \$8 per direct labor hour. If the company budgeted for 10,000 direct labor hours but actually worked 12,000 direct labor hours during the period, and the actual overhead costs were \$95,000, what is the applied overhead?
  - A. \$76,000
  - B. \$84,000
  - C. \$96,000
  - D. \$108,000
4. If the actual overhead costs are \$120,000 and the applied overhead is \$115,000, what is the variance?
  - A. \$5,000 favorable
  - B. \$5,000 unfavorable
  - C. \$120,000 favorable
  - D. \$120,000 unfavorable
5. A company applies overhead based on machine hours. The predetermined overhead rate is \$10 per machine hour. If the actual machine hours worked were 8,000 and the applied overhead was \$78,000, what was the budgeted machine hours?
  - A. 6,000 hours
  - B. 7,000 hours
  - C. 8,000 hours
  - D. 9,000 hours
6. If the actual overhead costs incurred are \$80,000 and the applied overhead is \$75,000, what is the overhead variance?
  - A. \$5,000 favorable
  - B. \$5,000 unfavorable
  - C. \$80,000 favorable
  - D. \$80,000 unfavorable

### Part -III: Write short answer for the following question

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1. What are the difference between applied overhead and actual variance

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2. Explain overhead variance

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3. Identify the type of variance analysis

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4. Discuss the importance of variance analysis

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### Part – III: Demonstration question

1. Explore the effects of misallocating overhead costs on financial statements?
2. Discuss how accurate overhead allocation contributes to better financial management and decision-making?
3. Explore the effects of misallocating overhead costs on financial statements?
4. Discuss how accurate overhead allocation contributes to better financial management and decision-making?
5. Explore the effects of misallocating overhead costs on financial statements?
6. Discuss how accurate overhead allocation contributes to better financial management and decision-making?

## Reference

- Davy, C, Bruce,D. Provide Management Accounting Information 9thEd (2019)
- Mckayla Girardin edited by Jeanine Skowronski updated on March 17, (2023) Revenue
- Michael Kopel , Christian Riegler @ Georg Schneider, published online 02  
Dec 2019 pages 805 823Providing Managerial accounting information the presence of a  
supplier
- By AICIA TUOVILA updated March 09, 2023 Reviewed by ANDY SMITH Fact cecked  
by YARILLET PEREZ Cost accounting
- Colin Davy& Danny Bruce 10th Edition January, (2023)
- Mary Girsch Bock updating Aug 5, (2022) first published on May 18(2022) Master  
budget for your budget
- www.scribd.com 1FNSACC507 Provide Management Accounting Information
- J.K. Aggarwal, R.K. Aggarwal, M.L. Sharma – Accounting for Managerial Decisions–  
Ramesh Book Depot, Jaipur.
- R. Kishore–Advance Management Accounting–Taxman allied Services Pvt. Ltd.
- M.Y. Khan, P.K. Jain–Management Accounting–Tata McGraw Hill
- Horngren, Sundem, Stratton–Introduction to Management Accounting–Pearson Education
- S.N. Mittal–Accounting & Financial Management – Shree Mahavir Book Depot, Nai  
Sarak, New Delhi.
- Anthony, Robat N., Hawkins and Merchant Management Ac.

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