

Financial Reporting, Statements and Analysis

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Edited by
Dr. Sukhpreet Kaur



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Financial Reporting, Statements and Analysis

**Edited By:
Dr. Sukhpreet Kaur**

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Unit 0 1: Introduction to Accounting

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- 1.22 Elements of financial statements

Summary

Keywords

Self-Assessment/ Evaluation

Review Questions

Answers: Self Assessment

Further Reading

Objectives

After studying this unit, you will be able to:

- explain the meaning of Accounting.
- illustrate the Accounting Process.
- identify and classify economic events of organizations for recording in books of accounts.

- explain the objectives of Accounting.
- assess the need for accounting information by various users.
- explain the advantages of Accounting.
- review the limitations of Accounting
- explain accounting terms that are prominently found in financial reports prepared by business entities.
- review the use of accounting concepts and conventions in preparation of Books of Accounts and Financial Statements.
- adapt the accounting rules in recording the business transactions.
- illustrate the impact of various transactions on the Accounting Equation of a Business Entity.
- appraise the relevance of IFRS.
- write the adoption process of IFRS in India.
- compare the Indian GAAP, IFRS, and Ind-AS.
- review the elements of four primary financial statements.
- assess the purpose of preparing primary financial statements.

Introduction

The main object of a business is to earn profit. Accounting is the medium of recording business transactions and it is considered as a language of business. To find out the results of a business, the information relating to the cost of operating business and revenues earned through business is collected. Then, such costs and revenues are compared to find out the profit or loss of the business. There is a direct relation between the scale of business and the number of transactions, a business will perform during an accounting period. If the volume of sales of the products is high and the number of transactions of the business is very high, it is impossible to keep all these transactions in the mind of a businessman. Thus a need for the recording of all these business transactions arises. The recording of business transactions or activities is done through a process of accounting.

There is an old quotation of a well-known author of accounting Prof. R.R. Gupta, First write or record before one delivers the goods or renders the services and if there is any disagreement in future, use the writing or record as evidence to resolve the misunderstanding or rectifying the errors.

The business activities are recorded not only to find out the profit or loss of the business but are also to judge the financial position of the business. Business accounts are prepared from the point of view of business and also serve the purpose of owners of business and outsiders as well. For example, Creditors and investors want to know how safe their investment is, employees want to know how secure their job is, customers of business products/services want to know about the availability of their liked or loved products in near future, etc. Thus, business accounts form the basis of which the financial decisions are taken by various stakeholders of a business.

After studying this unit, you will be able to understand the concept of accounting, the use of accounting information, principles of accounting, basic accounting terms, accounting equation, rules of accounting, the relevance of IFRS in the current business world, types of financial statements, and elements of financial statements.



Accounting is not an equivalent function to book-keeping. Accounting is broader in scope than book-keeping.

1.1 Meaning of Accounting

Accounting is treated as the language of business. It records all the transactions which can be measured in money and have occurred in a particular period. Accounts of a business provide useful information to its users.

1.2 Definition of Accounting

"Accounting is the art of recording, classifying, summarizing in a significant manner and terms of money, transaction, and events which are, in part at least, of a financial character and interpreting the results thereof."

- American Institute of Certified Public Accountants

“Accounting system is a means of collecting, summarizing, analyzing and reporting, in monetary terms, information about the business”.

- Robert N. Anthony

“Accounting is the process of identifying, measuring and communicating economic information to permit informed judgments and decisions by users of information”.

- The American Accounting Association (AAA)

Based on the above definitions, we conclude that accounting is a science as well as an art of recording business events that can be measured in money and analyzing and interpreting them.

1.3 Characteristics of Accounting

Based on the above definitions, the characteristics of accounting may be drawn as follows:

1. **Accounting is the art of recording financial transactions of the business:** All those transactions of a business that are of financial nature are recorded in business accounts' books. As the honesty of the workers cannot be measured in money, it cannot be recorded into accounting.
2. **Classifying and summarising recorded data is done in accounting:** In accounting, the financial transactions are recorded in the journal. With the help of a journal, the recorded data are classified into a ledger under appropriate heads. Then, with the help of the ledger, the trial balance and financial statements are prepared.
3. **Data are recorded in terms of money:** In accounting, the financial data are recorded in a definite term i.e., money. No other unit is accepted to record the business transaction. If there is a sale of 100 articles at the rate of 50 per article, only the monetary value of these articles i.e., 5,000 (100 x 50) is recorded.
4. **Accounting is science also:** Because of the recording of business transactions in a systematic manner, it is also called science. First, the business transactions are recorded in the primary books i.e., journal, for classification the ledger is prepared. With the help of the ledger the trial balance, profit and loss account, and balance sheet are prepared. Profit & loss account is prepared after a period to find the result of the business and balance sheet to know the financial position of the business.
5. **Analysing and interpretation of the results is done in accounting:** It not only record classifies and summaries the business data but also analyze and interprets the results for the future decisions. Based on data forecasting regarding profit, sales, etc., may be done.

1.4 Branches of Accounting

Different branches of accounting came into existence, keeping in view various types of accounting information needed by a different class of users of accounting information. Each branch has come about thanks to technological, economic, or industrial developments and has its own specialized use. Let's discuss the basic three branches of accounting one by one:

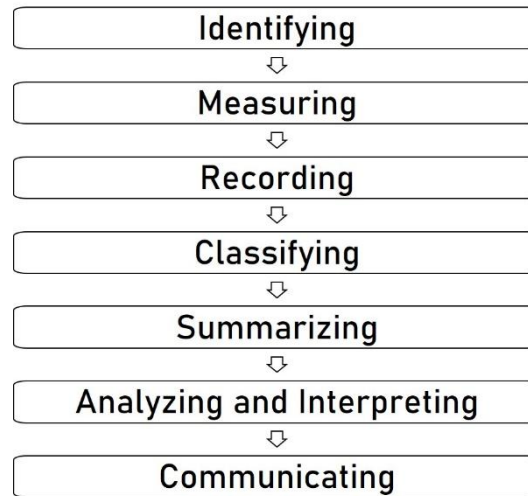
1. **Financial Accounting:** It is the original form of accounting. It refers to the recording of daily business financial transactions. Recording of the transaction is done in such a way that the profit of the business may be ascertained after a definite period and the picture of the financial position of the business may be presented.
2. **Cost Accounting:** As the name indicates, this accounting is related to the ascertainment of the cost of the product in a period. Under this system, a record of raw materials used in production, wages and labor paid, and other expenses incurred on production are kept to control the costs.
3. **Management Accounting:** The accounting which provides the necessary information to the management is called management accounting. Under this, the analysis and interpretation of the accounts, prepared by financial accounting, are done in a manner so that the managers may forecast, plan for the future and frame the policy.



The above three mentioned branches of accounting are not a conclusive list. Accounting does have other branches also viz. Inflation accounting, Forensic Accounting, Human Resource Accounting, Social Accounting, Tax Accounting, etc.

Accounting Process

Based on characteristics of accounting, the accounting process or accounting cycle is determined as follows:



Source: Author



Identifying: Only Business-related transactions have a place in the books of accounts.

Remember: Personal transactions of the Owner, shareholders, managerial personnel, and employees will not be recorded in the accounts' books.

Measuring: Only those transactions that can be measured in monetary terms, i.e., Legal tender/Currency of country, are recorded in the accounts' books.

Recording: After identifying business-related transactions measured in monetary terms, the transaction is recorded in the book of "Journal." Journal is also known as a book of primary or original entry.

Classifying: Post recording the transactions in "Journal," the transactions are organized and posted in the book of "Ledger"/"General Ledger" under individual sub-ledger accounts. Ledger is also known as a book of secondary or final entry. Each sub-ledger is further balanced.

Summarizing: All the general ledger accounts that are prepared in the book of Ledger are summarized in Trial Balance. Thus, a trial balance is nothing but a summary of all ledger accounts. Trial balance forms the basis of preparing Financial Statements viz – statement of Profit & Loss, Balance Sheet, and Cash Flow Statement.

Analyzing and Interpreting: In this step, Financial components that form part of various Financial Statements are analyzed through appropriate Financial Statement Analysis methods, and inferences are drawn to aid strategic decision making.

Communicating: Final reports consisting of analysis and interpretations are shared with top-level management for decision making.



Case Study

Epson Ltd. is the dealer of computers and printers. It has an extensive range of Multifunction printers which it used to buy from HP for resale purposes. It has bought one printer for ₹5000 and showed this purchase in the financial statements as an expense to the business.

A purchasing manager looked into the expense at the year-end and recommended (the owners) a few cheaper alternatives to be considered for all future purchases.

Let's identify the steps involved in the accounting process in the case mentioned above.

Accounting Process Steps	Explanation of the steps
Identify	The transaction "identified" was the purchase of a printer.
Measure	The cost of the printer was "measured" as ₹5000.
Record	The transaction was "recorded" in Journal systematically as ₹5000.
Classify	The transaction was then moved to the Ledger and "classified" with similar transactions.
Summarize	Here the ledger balance was "summarized" and converted into trial balance and financial statements accordingly.
Analyze	The purchase manager "analyzed" the financial statements at year-end.
Interpret	The analysis led to the "interpretation" that the printer was costly and cheaper alternatives were available.
Communicate	Interpretation inferred from the analysis in the above step was "communicated" to the owners as a recommendation for future purchases of this kind.

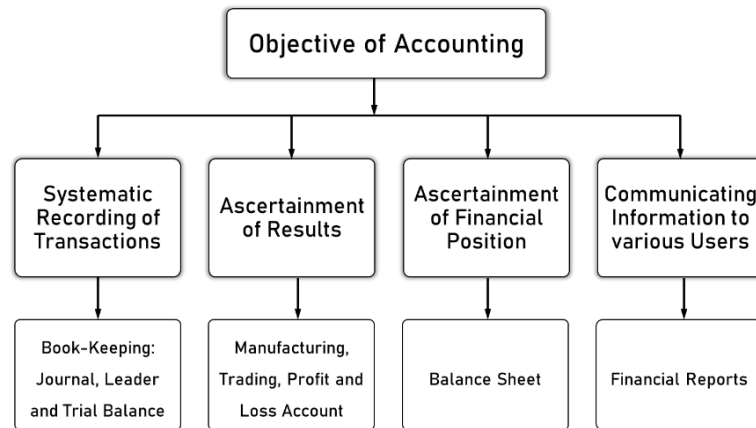


Mr. Salman is the Owner of a coffee house. The Coffee House also has a menu of specialty sandwiches, flatbreads, Veggie wraps, and bakery items for breakfast, lunch, and dinner, along with quality coffee drinks.

Identify the Business events/transactions from the ahead given transactions of Mr. Salman.

- On August 1, 2020, Mr. Salman bought coffee beans, brown bread, and vegetables for ₹ 7,000.
- On August 2, 2020, Mr. Salman sold 100 coffee cups for ₹ 100 each.
- On August 2, 2020, he went to Chandigarh for a business meeting.
- He came back on August 3, 2020, and on the way, he spent ₹ 2000 on petrol for an official motorcar.
- On August 4, 2020, he purchased Milk, coffee powder, icing sugar, and other material for ₹ 3,000.
- On August 5, 2020, he received ₹ 5,000 for coffee and snacks served at customers' birthday party on the same day.
- On August 6, 2020, he appreciated his employees for putting in their hard work to complete the targets well on time.
- On August 8, 2020, he got an order to supply 50 sandwiches for ₹ 100 each.
- On August 10, 2020, he got another order to supply 70 sandwiches for ₹ 100 each and received ₹ 5000 in advance.
- On August 12, 2020, he went to watch a movie with his family and spent ₹ 5000.

1.5 Objectives of Accounting



Source: Author

To maintain a systematic record of business transactions:

Transactions are recorded in chronological order in 'Journal' and then posted to the principal book i.e., 'Ledger' (recording of transactions group-wise).

To ascertain results:

To ascertain whether the company is running into profits or losses at the end of a particular period, "Profit and Loss Account" is prepared.

To ascertain the financial position:

Another essential objective is to determine the financial position of the business for which the 'Balance Sheet' is prepared.

To assist the management:

By applying various tools and techniques like Common Size Financial Statement Analysis, Trend Analysis, Ratio Analysis, Cash Flow Analysis, etc. on the financial statements being prepared to find out profit/loss and financial position, i.e., Income Statement and Balance Sheet, accounting assists management in handling business operations effectively.

To provide information to various users:

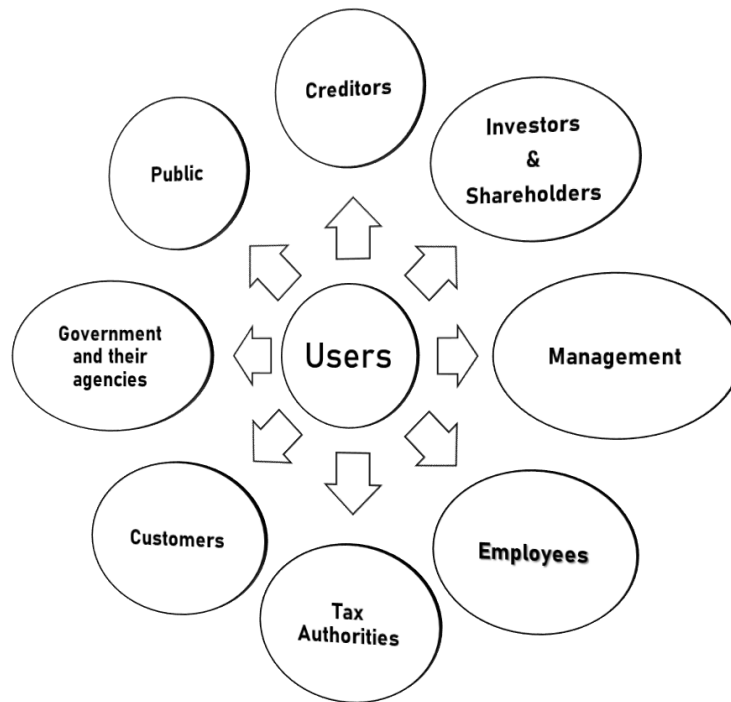
Providing information to the various interested parties or stakeholders is one of the most crucial accounting objectives. It is achieved by preparing 'Financial Reports.'

1.6 Users of Accounting Information

There are two types of persons interested in financial statements - 1. Internal users and 2. External users.

Internal Users: These are (a) Shareholders, (b) Management, and (c) Trade union and Employees.

External Users: Many persons are not directly involved in business but still have an interest in financial statements. They are termed, external users. For example: Investors, Creditors, Lenders of Money, Government, Tax Authorities, Stock Exchanges, Media, Business Consultants, etc.



Source: Author



Shareholders: Shareholders are very much interested in the financial statements. They are very much interested in the welfare of the business. They can know the operational results through such financial statements and the financial position of the business along with the earning capacity of the business.

Investors: Present and potential investors use accounting information for making investment decisions, such as whether they should invest or withdraw their money in any company's stock or not. They are interested to know the earning capacity and financial soundness of business which can be known through financial statements

Management: Management considers accounting information for generally taking each decision as most of the decisions involve finance. Thus, deciding whether the company has sufficient funds to pursue specific opportunities, project or not, demand a deep analysis of its financial health.



Decisions related to whether the company should-

- Salary hikes, appraisals, or bonus in the current year or coming years related decisions
- Expansion of business-related decisions
- Launching of new products, services, models, variants, or offering related decisions
- Marketing decisions
- Investment-related decisions
- Dividend distribution-related decisions
- Continue or Discontinue existing product or service or project-related decisions

All the above deliberations require in-depth analysis of accounting information to reach profitable and fruitful decisions.

Trade Unions and employees: Trade unions and employees used accounting information to access their career growth and appraisals related opportunities in the company.

Creditors: Short-term and Long-term creditors use accounting information for making lending decisions. The creditors and lenders of money etc. can also know the financial soundness through the

financial statements. They have to see two things (i) Regularity of income and (ii) solvency of the business so that their investment is risk-free.

Tax authorities: Tax authorities consider Financial statements for assessing the tax liabilities of companies.

Customers: Customers also use accounting information to assess company products' availability, especially when they are loyal customers of the company or company's products. In the case of durable products, customers are very much concerned about the company's after-sale services. Thus, they evaluate the company's financial health to confirm its market presence in the future.

Government: The government and various other government agencies consider accounting information of individual companies, industries, states, and countries to formulate different policies & plans and to set multiple central & state budgets. Financial statements help while computing National Income statistics etc.

Public: The public at large also uses accounting information for making informed decisions



Media, NGOs, and Business consultants/analysts are also users of accounting information.

1.7 Advantages of Accounting

Accounting does offer manifold advantages to various stakeholders of the business. Let's discuss some primary benefits of accounting as follows:

Maintenance of records

Accounting is a process of systematic recording of business transactions. These accounting records assist in checking any past Business transaction, So accounting is beneficial for the business persons to maintain the various records required for internal management of the business and the external parties. Accounting records also help the companies to abide by multiple provisions of specific laws and acts.

Preparation of financial statements

Without recording transactions in the book of Journal and Ledger, it is impossible to summarize the transactions because the number of transactions is too vast. Thus, a trial balance is prepared, which forms the basis of preparing Financial statements viz. profit and loss account, balance sheet, and cash flow statement. These statements are significant not only for the business but also for abiding by specific provisions of various Indian Acts and Accounting standards. Even Financial statements act as an instrument to impress the investors, lenders, and other stakeholders. There are so many reasons for preparing financial statements, and one can prepare financial statements only if the business is performing an accounting function.

Comparison of results

The competitive business world requires organizations to track their business growth, vis-a-vis its past growth and competitors' business growth, to know about the organization's present market position. Accounting information lays the basis for making such Intra and inter-firm/industry comparisons.

Decision making

We know that the primary accounting process ends with the accounting information's communication to the various users who need accounting information to make decisions. Users of accounting information do primarily consider accounting information for making practical, timely decisions.



As an Investor, you are required to decide that you should invest in one company or move your investment to another company. Thus, you will evaluate companies' financial statements to reach a particularly profitable investment decision.

Lenders (Individual or Institutional) have to decide about the borrower to whom they should lend money as they have limited funds to lend but will have so many loan borrowing applications from different borrowers. Based on the analysis of prospective borrowers' accounting information, lenders will choose to lend money only to that borrower where there is a high probability that they will recover their principal and interest amount back on time.

Evidence in legal matters

Only those business transactions are recorded in the books of accounts supported by authenticated documents viz. invoices, bills, vouchers, etc. Even books of accounts are audited. Thus, the accounts can be used as evidence in the court of law for fighting and resolving lawsuits.

Provides information to related parties

Accounting makes the organization's financial information available to various stakeholders such as shareholders, investors, lenders, management, suppliers, government and their agencies, media, business consultants, the public at large, and others directly or indirectly related to the organization.

Provides information about related party transactions

Accounting Standard 18 (AS-18) and Indian Accounting Standard 24 (Ind AS-24) require separate disclosures to be made by a parent entity regarding its transactions with associates, joint ventures, or subsidiaries, collectively referred to as Related party. The objective behind such separate disclosures is to bring to notice the fact that an entity's financial statements and profit or loss can be affected by transactions with the related party transactions.

Helps in taxation matters

Accounting information assists in resolving discrepancies related to tax liabilities. Various tax authorities of the Income Tax Department (ITD), such as the Central Board of Direct Taxes (CBDT) and Regional headquarters, depend on the companies' accounts for taxation matters.

Valuation of Business

Determination of the true and fair value of a business is a must at times of business sale or conversion of one business into another. Accounting serves the purpose in such a business situation through Financial statements, precisely a Balance Sheet, which depicts a business's actual financial position on a certain date. Thus, it becomes easy to determine or calculate purchase price, sale price, and net worth of business through accounting information.

Replacement of memory

A human cannot keep a record of all transactions in his/her mind that are happening at different points in time. Human does face issue of memory loss. This limitation of the human mind is overcome by accounting as books of accounts act as a systematic and authentic record of each business transaction. Thus, accounting acts as a replacement for memory.

1.8 Limitations of Accounting

As a coin has two sides, accounting does have the following few limitations along with the benefits discussed above:

Measurability: Ignores the qualitative elements

We know that only those transactions can be recorded in the books of accounts, which can be measured in monetary terms. So, there is no place for qualitative factors or information in the books of accounts, even if they are so important. Like, the morale of employees; the company's capacity to adopt the changes; the intelligence or innovations of business teams; honesty of the employees or management, etc., really does impact the performance of the business. But they are not at all recorded in the books of accounts. So, ignoring qualitative attributes in preparation of books of accounts acts as one drawback of accounting.

Biasness

Accounting does provide discretion to an accountant to choose any one method from other available methods for valuation of certain financial elements such as Current assets, Non-current assets. All methods provide different values of underlying financial elements. Thus, Accountants' influence or biasness or management pressure to choose a certain method affects the accounting information of the entity.



An accountant can choose any method of depreciation (Straight line method, written down value method, Units of production depreciation, etc.) to calculate the value of business' fixed assets to serve the business needs and objectives as all methods will provide different yearly depreciation amount and closing value of fixed assets.

An accountant can choose any method for inventory valuation such as the FIFO method, LIFO method, Weighted Average method. All methods will give the different closing value of inventory. Thus, an accountant can choose that method which is fulfilling the management's purpose but maybe misleading for other stakeholders.

Estimates

In many cases, the actual figures are not available, and accountants have to make certain estimates related to the future expenses, incomes, or other financial elements of financial statements. As estimates depend upon the personal judgments, intuitions, or experiences of the accountants, thus such estimates let subjectivity get involved in accounting information. Subjectivity involved in making estimates can affect the ability of the accounting information to fetch and report the true and fair value of the state of affairs of the business.

Ignores Price Level Changes

This relates to the Historical cost concept. We know that Fixed assets are recorded at historical cost in the books of accounts, not at their market values. In most situations, Historical cost generally differs from the original cost of an asset. Thus, ignoring price level changes and recoding the assets at historical cost distort the accounting results.

The danger of Window Dressing

Window dressing means manipulation of accounting information to serve the inner motives of individuals or organizations. As accountants or management can manipulate or misrepresent the books of accounts easily, thus such manipulated accounting information misleads the stakeholders and distorts the very purpose of accounting that is to communicate the true state of affairs of business to the internal and external world.

No Future Assessment

The financial statements show the financial position of the firm on the date of preparation. The users of the statement are more interested in the short-term and long-term future of the. However, accounting does not make any such estimates. As stakeholders cannot directly assess the future performance and position of the company based on present financial statements, thus it makes accounting information less useful for making future decisions.

Historical Cost

As discussed above, Accounting fails to consider factors such as inflation, price changes, etc., and uses historical costs to measure the values. This impacts the relevance of such accounting records and information.

Varied Accounting Policies

There is no global standard in accounting policies. In India, we follow the Accounting Standards and have moved towards IFRS by coming up with converged Accounting standards i.e., Indian Accounting Standards (Ind AS), Americans follow the GAAP, and then there are the international standards, namely the IFRS. And if a global company operates in more than one country, there may be confusion.

Not all accounting policies follow the same line of thinking, and conflicts may arise due to this. It has long been said that the whole world must agree on uniform accounting policies but this has not happened yet. Many countries around the globe have started following IFRS to overcome this limitation of accounting.

Verifiability

We have seen so many accounting scams which give evidence of non-verifiability of even audited financial statements. An audit of the financial statements even does not guarantee the correctness of such statements.

1.9 Accounting Terminology

Let's discuss some basic accounting terms that help you to understand accounting:

Business Entity

The term 'entity means something or someone having a separate existence. 'Business entity' means a business enterprise having a separate entity or existence. Thus, a Company or a Corporate is a Separate Business Entity that has a separate existence from its owners in the eyes of law.



"Gautam Adani" is an Individual entity that owns "Adani Group of Industries" which is a separate business entity in the eyes of law. So, "Gautam Adani" and "Adani Group of Industries" are two separate legal entities.

Transaction

A transaction is an economic activity that involves the exchange or transfer of values between two parties.



Purchase or Sale of Goods, receiving cash from Debtors, payment made to creditors, paying bills, receiving incomes, etc.

Capital

The amount of money or money's worth invested or introduced by the proprietor into his business at the time of the commencement of the business is called capital. Capital is total assets minus total liabilities. Capital gets increases with additional or further capital and profits earned by the business. Capital gets decrease with drawings of the owner and losses incurred by the business.

Proprietor or Owner

A proprietor is a person who invests money or money's worth into the business as capital and bears all the risks of the business.

Drawings

Drawings refer to cash, goods, or any other asset withdrawn by the proprietor from his business for his personal, private or domestic use or purpose.

It reduces the amount of capital.

Assets

Assets mean resources, things or rights of value owned/ controlled by a business undertaking which benefits future period or periods.

Assets are categorized as Tangible Assets and Intangible Assets based on Physical Existence.

Tangible Assets:

Any assets that have a physical presence.



Cash, Property, Buildings, Equipment, Furniture, Inventory

Intangible Assets:

Assets having no physical presence and it is usually difficult to determine their value. These are subject to amortization except goodwill.



Patents, Goodwill, Copyrights, Trademark

Assets are categorized as Current Assets and Non-Current Assets based on Convertibility.

Current Assets:

These assets are short-term assets that include either cash itself or are expected to be converted into cash within a year of the current operating period.



Cash in hand, Cash at Bank, Debtors, Stock/ Inventory

Non-current Assets:

These assets cannot be easily converted into cash as they are not for resale purposes and subject to depreciation. They are used in a company for the long term that is for more than 1 year.



Property, Building, Equipment, Furniture



Caselet

Let's say you got a loan of ₹10,000, you went out and bought the latest model oven, Bakemaster X-Series 3000.

Is Bakemaster X-Series 3000 an asset for you? Justify.



Caselet

Walmart acquired a majority stake in the Indian e-commerce giant Flipkart in 2019. It attributed 77% of Flipkart's \$24.1 billion in assets to intangibles and goodwill, highlighting the premium the US retail giant paid.

Will Goodwill be treated as an Asset of Walmart post said acquisition? Justify.

1.10 Liabilities

Liabilities mean claims of outsiders against a business concern which binds the business concern to others. Liabilities are categorized as Current Liabilities and Non-Current Liabilities.

Current Liabilities:

These liabilities are those obligations that are payable within 12 months or the operating cycle of a business.



Trade Creditors, Bank Overdraft, Outstanding Expenses

Non-Current Liabilities:

These liabilities are those long-term debts or long-term liabilities which are payable beyond twelve months in the future.



Long Term Loans, Debentures

1.11 Net Worth or Net Assets

Net worth or net assets means the excess of the total assets of a business over its total liabilities at any particular point in time. That is why it is also termed as the Owner's capital.

1.12 Expenses

The amount of money spent to earn income during the year is known as an expense.

1.13 Profit/Loss

If incomes earned during the year are more than expenses incurred, there is profit otherwise loss to the company.

1.14 Stock/Goods/Inventory/Merchandise

It refers to the goods purchased are for selling. Stock refers to the products that the business is manufacturing, selling, or trading with. If the goods are not sold out fully, a part of the total goods purchased is kept with the trader until it is sold out, it is said to be a stock.



In a stationary business, Pencils, pens, copies, books, and erasers, etc constitute goods.

In a garment business, clothes are goods

In a footwear business, Footwears are goods

In a construction business, Ready to sold flats, buildings, homes, etc constitute goods.

For a manufacturing business, there can be three types of Inventory i.e. Stock of Raw materials, Work-in-progress, and Stock of Finished goods.



It is the type of business and use of the item that defines what is the business stock and what is its assets?



Furniture will be treated as Stock/goods in a Furniture House, however, it will be treated as an asset in other businesses. Moreover, if the furniture is placed in an office not meant for sale in a Furniture House, then it will be treated as an asset, not stock.



Categorize the following items as per the nature:

- Building A/C
- Loan A/C
- Bank A/C
- Salary A/C
- Interest received A/C
- Rent A/C

1.15 Accounting Concepts

The term 'concept' is used to connote accounting postulates, which are necessary assumptions and conditions upon which accounting is based. These are the theories on how and why certain categories of transactions should be treated in a particular manner. The following are the basic accounting concepts:

1. Business Entity concept
2. Going concern concept
3. Money Measurement concept
4. Accounting Period concept
5. Cost concept
6. Dual Aspect concept
7. Realization concept
8. Matching concept
9. Accrual concept

Let's discuss them one by one in details as follows:

Business entity concept

The business entity concept states that the Business and its Owner (s) are two separate entities.

Implications of Business entity concept

- The personal transactions of the Owner are not recorded in the books of accounts of a business.
- The assets of the business are not treated as assets of the business owner, and vice versa.
- The liabilities, the financial obligations of the business are not treated as the personal obligations of the businessman
- Whenever the Owner is contributing any money or money worth towards the business, it is treated as capital, a liability for the business. And when the businessman, the proprietor withdraws certain goods, cash, or any other belonging of the business. It is not treated as an expenditure of the business. Rather, it is treated as drawings.



A Car purchased by the Owner for personal use is not recorded as an asset in the Books of Account of the Business.

Going concern concept

Going concern concept implies that business will continue to operate for an indefinite period in the future and transactions are recorded in books of accounts from this perspective.

Implications of going concern concept:

- Assets are classified as Current assets and Non-current assets in books of accounts.
- Liabilities are classified as Current liabilities and Non-current liabilities in books of accounts.
- Computation of depreciation based on the expected economic life of fixed assets.
- Existence of Prepaid Expenses, Accrued Expenses signifies the company is going to be operative in the future, it is a going concern.



Caselet

A company purchased a plant and machinery of ₹1,00,000 and its life span is 10 years.

- In the absence of the Going concern concept, how will you record it? As a Fixed asset or expense?
- As per the Going concern concept, how will you record it? As Fixed asset or, expense?

Justify your answers.



The going concern concept applies to the company's business as a whole. That is why if a company discontinues its one product/service/brand/segment or even branch and continues with others, it does not imply that the company is no longer to remain going concern.

Money Measurement concept

The money measurement concept states that in accounting, a record is made only of those accounting transactions or events which can be measured and expressed in terms of money.

Implications of money measurement concept:

- Only quantitative information that can be expressed in monetary terms has a place in books of accounts.
- Qualitative information though important, yet will not get any place in books of accounts.



Few instances of items that cannot be measured in monetary terms and thus will not be found in books of account are:

Employees' skills, honesty, teamwork, creativity, experience, attitude, innovativeness, working conditions, the efficiency of management.



Only monetary term i.e Legal tender/currency is used as a measurement unit. Thus, other measurement units like kilograms, litre, square feet, metre, Kilometre, etc. cannot be used to measure the transaction for recording purposes.



- An Indian company will measure its transactions in Indian Rupee (₹).
- A US company will measure its transactions in US Dollars (\$).
- A Japanese company will measure its transactions in Japanese Yen (¥).



- Which will be the measurement unit for England companies for preparing their books of accounts?

It will be Pound Sterling (£)

- Which will be the measurement unit for European companies for preparing their books of accounts?

It will be Euros (€)

Accounting Period concept

As per the accounting period concept, for measuring the financial health of a business periodically, the working infinite life of an undertaking is split into convenient artificial short periods called an accounting period.

Implications of accounting period concept:

- Companies close their books of Accounts at the end of the Accounting year to evaluate the company's performance and position.
- Companies can follow the financial year or calendar year as their accounting year.



Companies do prepare and evaluate monthly, quarterly, and semi-annually financial statements for internal management purposes. However, preparing and publishing annual financial statements is mandatory for registered companies as per applicable legal provisions in India.



What is the difference between financial year and calendar year?

Financial Year starts on April 1 and ends on March 31. For example April 1, 2021, to March 31, 2022. The calendar year starts on January, 1 and ends on December, 31. For example- January 1, 2021, to December 31, 2021.



Which will be the closing date of business' accounts, if a business is following the financial year for preparing its books of accounts?

Which will be the closing date of business' accounts, if a business is following the calendar year for preparing its books of accounts?

Cost concept/Historical cost concept

The cost principle of accounting (also known as the historical cost concept) states that the assets and liabilities of a business should be presented in accounting records at their historical cost.



What do you mean by the Historical cost of an asset?

Historical cost is the amount that has been spent to purchase that asset.

What do you mean by the Market value of an asset?

It is the price that can be realized by selling the asset on a particular date.



A business owner purchased Machinery for ₹5,00,000 on January 1, 2015 for his business. The business provided annual depreciation of ₹50,000 at the closing date of each accounting year. Thus, the carrying value of that machinery turned to be ₹3,00,000 as on December 31, 2018, in the books of accounts. The business owner wanted to replace that machinery with a new one, so when he assessed the value at which he could sell that machinery, he realized it could be sold at ₹2,15,000 only.

In this example: The historical cost of the machinery is ₹5,00,000 and the Market value is ₹2,15,000.

The implication of cost concept:

- An asset acquired by a concern is recorded in the books of accounts at historical cost (i.e., at the price paid for acquiring the asset). The market price of the asset is ignored.



If an asset was purchased for ₹10 lakh in 2015 by the ITC company. So, ITC must have to record that asset at that ₹10 lakh in the books of accounts of 2015. Plus, ITC would have to deduct the depreciation amount every year to calculate the carrying value of that asset in the subsequent years' books of accounts.

Dual Aspect concept

The dual aspect concept states that every transaction should have a two-sided effect to the extent of the same amount for recording purposes. This concept is the basis of the double-entry system. In accounting language, this concept states for "every Debit, there is an equivalent Credit". This concept is derived from the Accounting equation that equates Assets with Liabilities plus Capital.

$$\begin{array}{c} \boxed{\text{Accounting Equation}} \\ \boxed{\text{Assets}} = \boxed{\text{Liabilities}} + \boxed{\text{Equity}} \end{array}$$



Assume you are the Owner of a Restaurant. You are required to buy crockery for your restaurant. Say, it costs your business ₹50,000. So, as per the dual aspect, on one side, cash of ₹50,000 will be moved out from your business, and crockery as an asset worth ₹50,000 will move in your restaurant.

Realization concept

The realization concept states revenues should be recorded in the books of accounts only when they are earned. Revenue is earned when goods/services are delivered or provided to customers by the business.



When does a business earn revenue?

- The revenue is earned once the underlying goods or services associated with the revenue have been delivered or rendered, respectively.

Implications of realization concept

- Mere receipt of orders is not treated as Sales and Hence is not recorded as a transaction in books of accounts.
- When the customer pays for the goods in advance is treated as Current liability because the business has not performed its obligations either partially or fully.

Matching concept

The matching concept requires that the expenses incurred during a period be recorded in the same period in which the related revenues are earned. This principle recognizes that businesses must incur expenses to earn revenues.

Implications of Matching concept

- Business recognizes revenues and their related expenses in the same accounting period.
- Outstanding expenses are added in the total of that respective expenses and are treated as Current Liabilities.
- Prepaid Expenses are deducted from the total of that respective expenses and are treated as Current Assets.
- Accrued Incomes are added to the total of that respective income and are treated as Current Assets.
- Pre-received incomes are deducted from the total of that respective income and are treated as Current Liabilities.

Accrual Concept

The accrual concept under accounting assumes that revenue is realized at the time of sale of goods or services irrespective of the fact when the cash is received. In other words, this concept requires transactions to be recorded in the period in which they occur, regardless of when the actual cash flows for the transaction are received. The idea behind the accrual principle is that financial events are properly recognized by matching revenues against expenses when transactions – such as a sale – occur, rather than when the actual payment for the transaction may be received.

The implication of accrual concept:

Existence of the following Accounts in accounting books:

- Outstanding Expenses
- Prepaid Expenses
- Accrued Incomes
- Pre-received incomes

1.16 Accounting Conventions

Accounting conventions are the common practices that are universally followed in recording and presenting accounting information of the business. Following is the list of accounting conventions:

1. Convention of Materiality
2. Convention of Full disclosure
3. Convention of Conservatism
4. Convention of Consistency

Let's discuss the above-mentioned accounting conventions one by one:

Materiality

Materiality convention concern the relevance of information, and the size and nature of transactions that report in the financial statements.

As per this convention, only those transactions which are useful and significant for the business are recorded in books of accounts. The firm need not record immaterial and insignificant items.

Materiality depends upon the nature and size of the item. The rationale behind this convention is that any information that could influence the decision of a user of accounting information must be included.

Full disclosure

The full disclosure convention requires a business to report all required and relevant information about their financial statements and business to various stakeholders who require to make informed business decisions concerning the company. This convention ensures that the readers and users of a business's financial information are not misled by any lack of information.

Due to the full disclosure convention, you will find detailed notes to accounts along with three primary financial statements in an annual report of a company. Notes to accounts provide detailed information about the accounting policies and methods that have been applied to calculate values of financial elements that form part of financial statements.



What are notes to accounts?

These are also referred to as footnotes. These provide additional information about a company's operations and financial position and are considered to be an integral part of the financial statements. The notes are required by the full disclosure principle.

What is an annual report of a company?

An annual report is a document that public corporations must provide annually to shareholders that describes their operations and financial conditions.

Conservatism

Convention of conservatism states "anticipate no profits but provide for all Losses" at times of preparing books of accounts. It emphasizes that an accountant should exercise due caution and a high degree of verification while preparing books of accounts.

Implications

- All probable or anticipated losses are recorded when they are identified, while profits or gains can only be recorded when they are fully realized or earned.
- Making Provision for Bad and Doubtful Debts.
- Showing Depreciation on Fixed Assets, but not appreciation.
- Stock valuation sticks to the rule of the lower of either cost or net realizable value.

Consistency

As per the convention of consistency, a company should use the same accounting policies and principles to prepare books of accounts across different accounting periods. It signifies that once an accounting method/policy/principle is chosen then the company should follow the same in the future unless a company has a valid reason to do otherwise.

In the absence of this convention, the financial statements of a company will become incomparable and inconsistent. Hence, the users of accounting information will face challenges to analyze the financial position and performance of the company vis-à-vis its past performance and industry performance based upon such inconsistent financial statements.

Change in Accounting policies should be made in the following:

- Adoption of different accounting policies is required by statute or for compliance with an Accounting Standard.
- It is considered that change would result in a more appropriate presentation of the financial statement.

1.17 Rules of Accounting

Rules of accounting are useful for systematically recording the business transactions in Books of Accounts.

What are Debit and Credit?

- Debits and credits are simply additions to or subtractions from an account.
- "Dr." used in journal entries to refer to debits and "Cr." used in journal entries for a credit.
- Asset, Expense, and Loss accounts normally have debit balances.
- Liability, income, and capital accounts normally have credit balances.

Rules of accounting can be discussed in two different ways i.e. Traditional or 3 Golden rules of accounting and Modern rules of accounting. Let us discuss them one by one as follows:

Traditional or 3 Golden Rules of Accounting

As per traditional or Golden rules of accounting, accounts are categorized into three broad categories, and the rules of debiting or crediting them are summarized as follows:

Personal accounts	Debit the receiver Credit the giver
Real accounts	Debit what comes in Credit what goes out
Nominal accounts	Debit all expenses or losses Credit all incomes or profits or gains

Source: Author

Personal accounts: These are those general accounts that represent persons. Persons can be natural persons, artificial persons. These can be representative personal accounts as well.

Natural Personal Account: Natural Persons mean persons who have taken birth through the natural process like human beings. Therefore, we include the accounts belonging to them under this head.




Sangeeta Account, Ramesh Account, Triveni Account, Jerry Account, Debtors Account, Creditors Account, Capital Account, Drawings Account, etc.

Artificial Personal Account: Artificial persons connotes those legal entities that have taken birth through a legal process such as companies, partnership firms, NGOs, insurance companies, banks, other financial institutions, cooperative societies, hospitals, educational bodies, etc.




Tata Steel Account, Bharti Airtel Account, M/S Vinod Textiles Account, PNB Account, etc.


Representative Personal Account: These accounts represent several natural or artificial persons.

 Outstanding Wages Account, Prepaid Commission Account, Accrued Rent Account, Unearned Brokerage Account, etc.

Real accounts: These accounts represent various assets and liabilities accounts of a company.

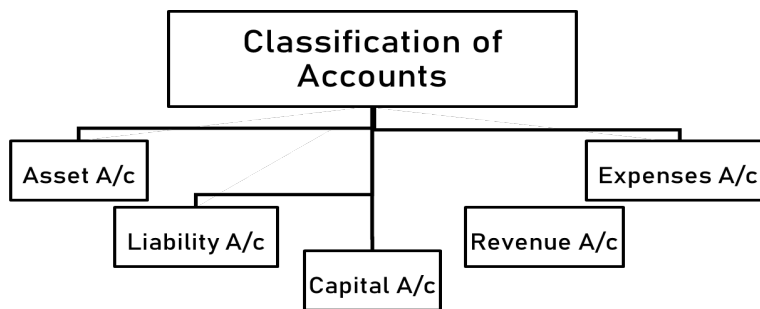
 Building Account, Cash Account, Stock Account, Patent Account, Trademark Account, Loan Account, Debentures Account, Bonds Account, Plant & Machinery Account, etc.

Nominal accounts: These accounts represent various expenses and losses that a company is incurring plus various incomes, profits, and gains that a company is earning.

 Rent Paid Account, Salaries Account, Insurance premium Account, Commission Account, Commission received Account, Discount allowed Account, Discount received Account, Loss due to theft Account, Loss due to fire Account, Interest paid Account, Interest received Account, etc.

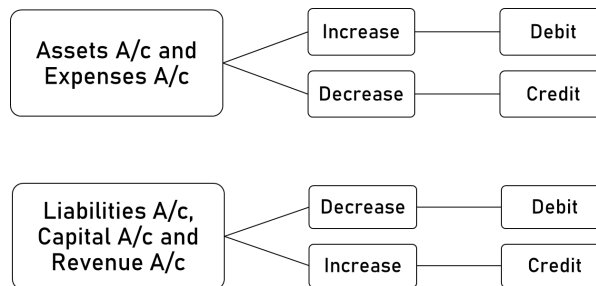
Modern Rules of Accounting:

As per modern rules of accounting, accounts are categorized in five categories as follows:



Source: Author

As per modern rules of accounting, the above five types of accounts have to debited or credited when:



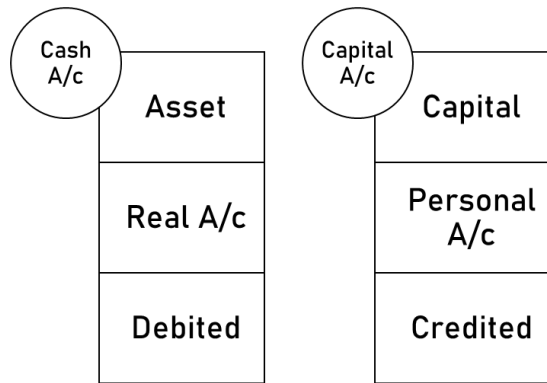
Source: Author

1.18 Application of Rules of accounting

Let's learn how to apply the discussed rules of accounting at times of recording transactions in Books of Accounts particularly in Journal.

Transaction 1: Akash started Business with Cash of ₹ 10,000.

Let's identify the different accounts involved in the above transaction along with their type or nature:



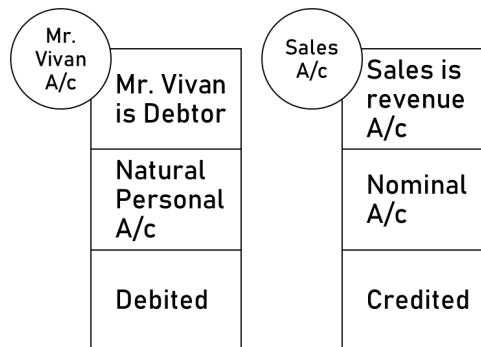
Source: Author

Thus, the above transaction will be recorded as a journal entry in the book of Journal as follows:

Cash A/c---Dr.	₹ 10,000	
		To Capital A/c ₹ 10,000

Transaction 2: Akash sold goods to Mr. Vivan for ₹ 6,000 on credit.

Let's identify the different accounts involved in the above transaction along with their type or nature:



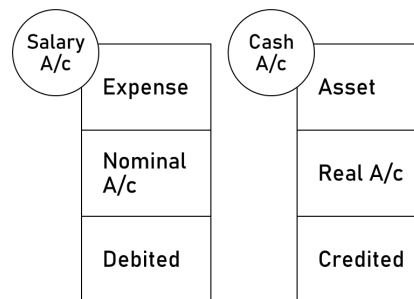
Source: Author

Thus, the above transaction will be recorded as a journal entry in the book of Journal as follows:

Mr. Vivan A/c--Dr.	₹ 6,000	
		To Sales A/c ₹ 6,000

Transaction 3: Akash paid Salaries worth ₹ 1,000.

Let's identify the different accounts involved in the above transaction along with their type or nature:



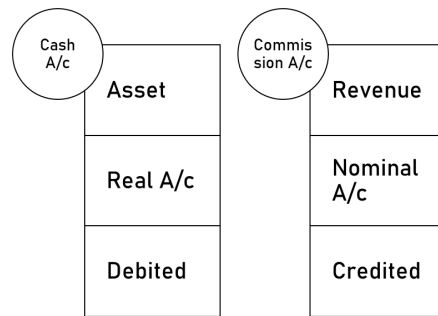
Source: Author

Thus, the above transaction will be recorded as a journal entry in the book of Journal as follows:

Salaries A/c---Dr.	₹ 1,000	
		To Cash A/c ₹1,000

Transaction 4: Akash received Commission worth ₹ 1,000.

Let's identify the different accounts involved in the above transaction along with their type or nature:



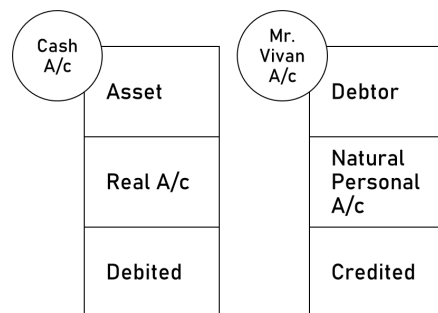
Source: Author

Thus, the above transaction will be recorded as a journal entry in the book of Journal as follows:

Cash A/c---Dr.	₹ 1,000
To Commission A/c	₹ 1,000

Transaction 5: Akash received ₹ 500 from Mr. Vivan.

Let's identify the different accounts involved in the above transaction along with their type or nature:



Thus, the above transaction will be recorded as a journal entry in the book of Journal as follows:

Cash A/c---Dr.	₹ 500
To Mr. Vivan A/c	₹ 500



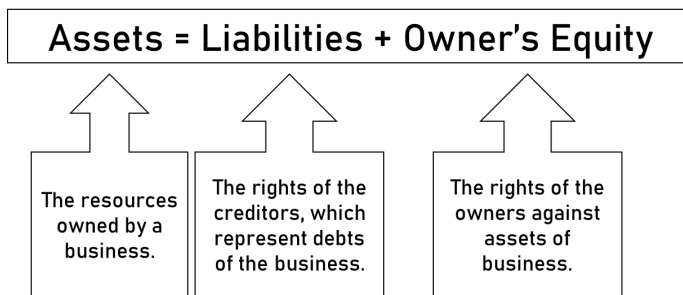
Identify the accounts involved in the following transactions and pass journal entries for the same:

1. Akash purchased goods worth ₹ 5,000 for the business.
2. Akash deposited business cash worth ₹ 1,500 in business' HDFC Bank A/c.
3. Akash withdrew ₹ 500 from business' HDFC Bank A/c for his personal use.
4. Akash paid ₹ 800 for Rent.
5. Akash purchased goods for ₹ 1,800 from Mr. Lokesh.

1.19 Accounting Equation

The word equation comes from the word equal. For any equation, one side always equals another.

The accounting equation is as follows:



Source: Author

Sometimes, we expand the Accounting Equation to show all the Equity components as follows. This is called the **Expanded Accounting Equation**.

$$\text{Assets} = \text{Liabilities} + \overbrace{\text{Owner capital} - \text{Owner Withdrawals} + \text{Revenues} - \text{Expenses}}^{\text{Equity}}$$

Source: Author

Note: This equation must **ALWAYS BE IN BALANCE**

Case:

Let's learn how transactions impact the Accounting Equation with the help of the following transactions:

Transaction 1: Owners of S. Company contributed ₹20,000 cash to start the business.

Transaction 2: Purchased goods by paying ₹ 1,000 Cash.

Transaction 3: Purchased equipment for ₹ 15,000 from Tridev Ltd.

Transaction 4: Sold good Costing ₹ 500 for ₹ 1,000.

Solution:

The impact of the above transactions on the accounting equation is as follows:

Sr. No.	Assets	=	Liabilities	+	Owners' Equity
1	Cash = ₹20,000		Nil		₹20,000
2	Cash = ₹19,000 Stock = ₹1,000		Nil		₹20,000
3	Cash = ₹19,000 Stock = ₹1,000 Equipment = ₹15,000		Tridev = ₹15,000		₹20,000
4	Cash = ₹20,000 Stock = ₹500 Equipment = ₹15,000		Tridev = ₹15,000		₹20,500
Total	₹35,500		₹35,500		

Source: Author



Show the effect of the following transactions on the Accounting Equation.

1. Started Business with cash ₹45,000
2. Opening a Bank Account with a deposit of ₹4,500
3. Bought goods from M/S Sunflames for ₹11,200



Show the effect of the following transactions on the Accounting Equation?

1. Started Business with cash ₹25,000
2. Paid Salaries ₹1,000
3. Received Rent ₹2,000
4. Outstanding Wages ₹1,500
5. Prepaid insurance ₹1,000



Prepare accounting equation from following transactions:

1. Started Business with cash ₹30,000
2. Received Rent in advance ₹1,000
3. Accrued Interest ₹2,000
4. Purchased Machinery for ₹15,000 on credit
5. Depreciation provided ₹1,500

1.20 Concept of IFRS and its relevance

In the existent era of liberalization, globalization, and digitalization, the world has turned into one economic digital village. Such globalization and digitalization of the business world and its structures and regulations which support it make it vital to develop and follow a single globally accepted financial reporting system. Several multi-national conglomerates do establish their businesses in various emerging economies of the world to churn out the benefits of less costly business operations offered by such emerging economies. Even most multi-national companies establish their businesses in various countries of the world to fulfill different business motives such as raising capital, diversifying business risks, gaining organic or inorganic business growth, etc. For raising capital from overseas markets, companies do list their securities in overseas capital markets. Thus, well integration of capital markets of different countries in need of an hour for the business world. The use of varied accounting framework in different countries, which need different accounting treatment and presentation of the same underlying economic transactions bring about confusions for users of accounting information. This confusion results in creating inefficiency among capital markets across the world. Hence, the growing complexities of financial reporting and globalization of capital markets ask for a single set of high-quality universally accepted accounting standards.

High standards of financial reporting support the trust of investors that they place in financial and non-financial information provided by various companies. Thus, the need to have a single set of globally accepted accounting standards has encouraged many counties to converge their national accounting standards with IFRS.



Answer the following questions:

- What do mean by accounting standards?
- Who does prepare and issue accounting standards in India?
- What is the need for accounting standards?

What is IFRS?

International Financial Reporting Standards (IFRS) is s set of accounting standards developed by the International Accounting Standards Board (IASB) for the preparation of Corporate financial statements. They are considered as "principles-based" set of standards. They give broad rules rather than providing specific accounting treatments of underlying transactions. Every major nation has already moved or is moving towards adopting IFRS to some extent. A large number of worldwide capital markets' regulatory bodies require public companies including financial institutions, insurance companies to use IFRS for making their statutory financial reports. IFRS is regarded as a universally accepted business language.

It is a set of high-quality and globally acceptable financial accounting standards stating how particular types of transactions and other events should be reported in financial statements. It aims to provide a common global language for business affairs so that company accounts are understandable and comparable across international boundaries.

Need of IFRS

The need for IFRS stems from the lack of comparability of financial statements across the countries resulted from following different accounting standards. The following considerations seed the need of setting a common business language to be followed across the world.

- The need to communicate across the border has increased due to globalized capital markets.
- Need for harmonization of accounting policies and financial reporting.
- To have a common accounting language, so business and accounts can be understood from company to company and country to country.
- To facilitate the investment climate of emerging and globalized economies like India.
- To integrate the financial reporting of a specific country with the rest of the economies of the globe.
- For making International Acquisitions for inorganic business growth.
- To have a standard quality of MIS.
- To enhance confidence among the global stakeholders for investing in international markets.



- What is harmonization?

Harmonization in the accounting context may be defined as the process aimed at enhancing the comparability of the financial statements produced in different countries' accounting regulations.

Let's understand with an example:

Investors would like to direct their capital to the most efficient and productive companies globally provided they are in a position to understand their accounting/financial reports. So, if all countries across the globe would have adopted the standard accounting standards. It makes it easier to use financial reports for taking prudent investment decisions by investors across their borders.

Hence, It lays down the rationale behind the harmonization of accounting standards across the globe.

- What is MIS?

A management information system (MIS) is a computer system consisting of hardware and software that serves as the backbone of an organization's operations. An MIS gathers data from multiple online systems, analyzes the information, and reports data to aid in management decision-making.

Who prepares and issues IFRS?

The International Accounting Standards Board (IASB), is an independent body formed in 2001 with the sole responsibility of establishing the International Financial Reporting Standards (IFRS). It succeeded the International Accounting Standards Committee (IASC), which was earlier given the responsibility of establishing the international accounting standards. IASB is based in London. It has also provided the 'Conceptual Framework for Financial Reporting' issued in September 2010 which provides a conceptual understanding and the basis of the accounting practices under IFRS.

Modes of IFRS compliance

- Countries can comply with IFRS through two modes i.e. Adoption and Convergence.
- Under adoption, countries adopt IFRS as it is formed by IASB with zero modification.
- Under convergence, countries prepare their standards in line with IFRS.

India's approach to move towards IFRS

The Institute of Chartered Accountants of India (ICAI) initiated the process of moving towards IFRS way back in 2006 for enhancing the acceptability and transparency of financial reporting made by Indian companies. This moves towards IFRS was later accepted by the Government of India (GOI). The Government of India in consultation with the ICAI and other stakeholders decided to converge with IFRS after an in-depth analysis of IFRS requirements. Accordingly, while developing IFRS-converged Accounting Standards (Ind AS), best efforts have been put forth to keep these standards, as far as possible, in line with the corresponding IAS/IFRS, and departures that have been made were

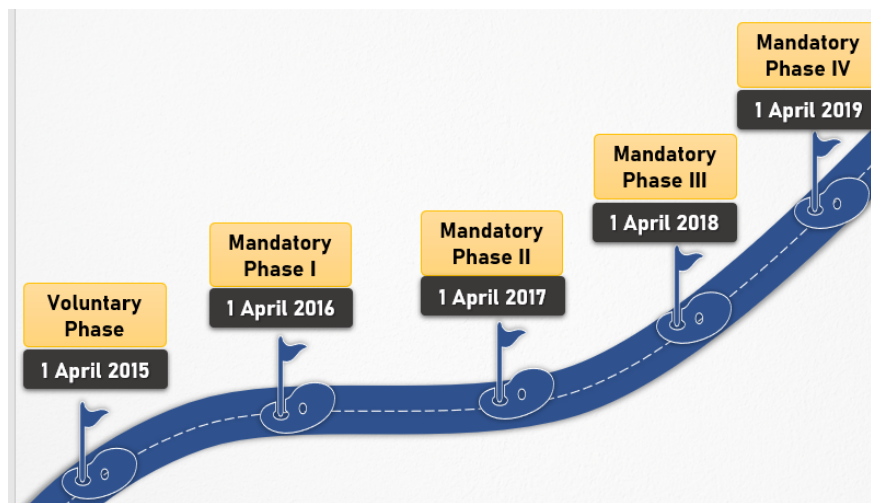
considered essential. India committed at the G20 summit in 2009 to follow IFRS from 2011. It was decided to follow IFRS by convergence not by adoption as convergence gives scope for making country-specific changes. Converged accounting standards with IFRS have been named Indian Accounting Standards (Ind AS). India implemented Ind AS voluntarily for all companies (with comparatives) from April 1, 2015. However, Ind AS was implemented from April 1, 2016, for specified companies on a mandatory basis.

What is Ind AS?

Ind AS are a set of accounting standards notified by the Ministry of Corporate Affairs, Government of India which are converged with IFRS. These standards are formulated by the Accounting Standards Board (ASB) of the Institute of Chartered Accountants of India (ICAI). MCA has notified 41 Ind ASs as amended by Companies (Indian Accounting Standards) Amendment Rules, 2015 with a specific roadmap of implementation.

Roadmap of Implementing Ind AS

Look at a snapshot of the roadmap for implementing Ind AS as follows:



Source: Author

For companies other than banks, NBFCs, and Insurance companies:

Phase 1	April 1, 2015, or thereafter: Voluntary basis for all companies (with Comparatives)
	April 1, 2016: Mandatory Basis
	<ul style="list-style-type: none"> a) Companies listed/in process of listing on Stock Exchanges in India or outside India having net worth \geq ₹ 5 Billion b) Unlisted companies having a net worth \geq of ₹ 5 Billion c) Parent, Subsidiary, Associate, and Joint Venture of above
Phase 2	April 1, 2017: Mandatory Basis
	<ul style="list-style-type: none"> a) Companies listed/in process of listing on Stock Exchanges in India or outside India not covered in Phase 1 (other than companies listed on SME exchanges) b) Unlisted companies having net worth is $>$ ₹ 2.5 Billion but $<$ ₹5 Billion c) Parent, Subsidiary, Associate, and Joint Venture of above

For Scheduled commercial banks (excluding RRBs), NBFCs, and Insurance companies:

Phase 3	Planned As:
	Applicable from April 1 2018 (with comparatives)

	<p>a) Applicable to all banks, NBFCs & insurance companies having a net worth \geq ₹ 5 Billion.</p> <p>b) Parent, Subsidiary, Associate, and Joint Venture of above other than already covered under the corporate roadmap</p>
Phase 4	Planned As: Applicable from April 1, 2019 (with comparatives)
	Applicable to NBFCs having net worth is $>$ ₹ 2.5 Billion but $<$ ₹5 Billion



Actual Scenario of implementation of Ind AS on Commercial Banks/Insurance companies:

As discussed earlier, Scheduled Commercial Banks (SCBs) excluding Regional Rural Banks (RRBs) were initially required to implement Indian Accounting Standards (Ind AS) from April 1, 2018.

RBI (Reserve Bank of India) vide a press release dated April 5, 2018, deferred the implementation of Ind AS by one year i.e., 2019-20 would have been the first year of Ind AS with 2018-19 as the comparative year. The implementation of Ind AS by banks required certain legislative changes in the format of financial statements to comply with disclosures required by Ind AS. The format change requires an amendment to the third schedule of the Banking Regulation Act, 1949 to make it compatible with accounts under Ind AS.

RBI through its notification dated March 22, 2019, has further deferred the implementation of Ind AS to all scheduled commercial banks till further notice. This is because the amendments recommended by RBI are still under consideration of the Government of India, therefore, RBI has decided to defer the applicability of Ind AS till further notice.

The Indian Insurance regulator IRDAI on January 21, 2020, has decided to postpone the implementation of the Indian Accounting Standard (Ind-AS), which was supposed to start in 2020-21, indefinitely for the domestic insurance sector. Earlier, IRDAI's in its circular dated June 28, 2017, had deferred the effective date of implementation of Ind AS in the domestic Insurance sector to FY 2020-21.

Considering the costs and efforts involved and the asset-liability mismatch (as mentioned in the background section) on implementation of Ind AS at this juncture, IRDAI in its meeting held on December 20 2019 decided to implement Ind AS 109, Financial Instruments, and Ind AS 117 simultaneously, along with other applicable Ind AS. However, the effective date of implementation would be decided after the finalization of IFRS 17 by IASB.

Final stage

- In June 2020, the International Accounting Standards Board (Board) amended IFRS 17 Insurance Contracts.
- Issued in May 2017, IFRS 17 sets out the requirements for a company reporting information about insurance contracts it issues and reinsurance contracts it holds.
- The amendments are aimed at helping companies implement the Standard and making it easier for them to explain their financial performance.
- IFRS 17 incorporating the amendments is effective from annual reporting periods beginning on or after January 1, 2023.



If IND AS becomes applicable to any company, then IND AS shall automatically be made applicable to all the subsidiaries, holding companies, associated companies, and joint ventures of that company, irrespective of individual qualification of such companies.

In the case of foreign operations of an Indian Company, the preparation of stand-alone financial statements may continue with its jurisdictional requirements and need not be prepared as per the IND AS.

However, these entities will still have to report their IND AS adjusted numbers for their Indian parent company to prepare consolidated IND AS accounts.

Benefits of Convergence with IFRS

Many beneficiaries will get benefit from such convergence such as the economy, investors, industry, etc.

Economy: The convergence benefits the economy by bringing growth in international business by boosting the overseas investors' confidence to move their investment in international capital markets. An investor will consider foreign origin companies as an investment option only if he/she is confident that he/she understands the financial information provided by foreign companies. And, this confidence stems from standardized global accounting language i.e., if companies are following the same set of accounting rules, policies, and standards to prepare and report their financial information.

Investors: Financial information prepared by using a common set of accounting standards help investors understand investment opportunities present in overseas markets. Thus, convergence with IFRS contributes to investors' understanding and confidence in high-quality financial statements.

Industry: The industry can finance itself from foreign markets at a lower cost if it can create confidence in the minds of foreign investors that their financial statements comply with globally accepted accounting standards.

1.21 Difference between IFRS and GAAP

Following is the list of ten basic differences between Indian GAAP, IFRS, and Ind AS.

Basis	INDIAN GAAP	IFRS	IND AS
Components of Financial Statements	a) Balance sheet b) Statement of Profit & loss c) Cash flow statement d) Explanatory notes with significant accounting policies Comparative figures for one year are also to be presented.	a) Statement of financial position. b) Statement of income with profit/ loss c) Statement of cash flows d) Statement of changes in equity e) Notes with a summary of significant accounting policies Comparative figures for one year are also to be presented.	a) The balance sheet at the end of the period including changes in equity b) Statement of profit/ loss c) Cash flow statement d) Explanatory notes with significant accounting policies Comparative figures for one year are also to be presented.
Format of Financial Statements	Under Schedule VI of Companies Act, 1956 have provided earlier Now, Under Schedule III of Companies Act, 2013	Only illustrative formats have been given.	No format prescribed.
Accounting Treatment of	Financing activities	Cash & cash equivalents	Same as IFRS

Bank Overdraft			
Cash flows from extraordinary items	To be classified as operating, financing, and investing activities.	Cash flow statements do not reflect any items as extraordinary.	Same as IFRS
Interest and dividend	For financial entities: Interests paid/received, or Dividends received are to be classified as operating activities. Dividends paid to be classified as financing activities. For other entities: Interest and dividends received are required to be classified as investing activities. Interest and dividends paid are required to be classified as financing activities.	May be classified as operating/investing/financing activities in a manner consistent from time to time.	Same as Indian GAAP
Dividends declared	Dividends declared or proposed after the balance sheet date but before approval of financial statements will have to be recorded as a Current liability.	Declared dividend to be recognized in the period when it is declared.	Same as IFRS
Convertible Debt	The entire instrument is treated as Debt based on its legal form.	Shareholders' Fund	Same as IFRS
Parent Company	Any company holding 51% or more shares of the subsidiary.	Any company having control over decision-making or control on the ownership of other companies.	Same as IFRS
Cash Flow Statement	Exempted if SMEs	No such exemption	Same as IFRS
Property, plant, and equipment	AS 6 - Depreciation accounting AS 10 - Accounting for fixed assets	IAS 16- Property, plant, and equipment IFRIC 1 - changes in existing decommissioning, Restoration, and Similar Liabilities	IND- AS 16- Property, plant, and equipment

Source: <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/audit/in-audit-indian-gaap-ifs-and-indas-a-comparison-noexp.pdf>



Above is not the conclusive list of differences among Indian GAAP, IFRS, and Ind AS. You can read the other differences at:

<https://www2.deloitte.com/content/dam/Deloitte/in/Documents/audit/in-audit-indian-gaap-ifs-and-indas-a-comparison-noexp.pdf>

1.22 Elements of financial statements

Broad classes of transactions and events as per their respective economic characteristics are termed as elements of financial statements. Four main following financial statements are mandatory to get prepared and published by companies. These financial statements are accessible to external and internal stakeholders.

1. Balance Sheet
2. Statement of Profit & Loss
3. Cash Flow Statement
4. Statement of Changes in Equity

Let's discuss these financial statements one by one in a detailed manner.

Balance Sheet

It is a snapshot representing the state of a company's finances at a moment in time (as on a specific date). It shows what a company owns and owes and how much shareholders have invested in the company.

"Balance Sheet is a list of balances in the assets and liability accounts. This list depicts the position of assets and liabilities of a specific business at a specific point of time".

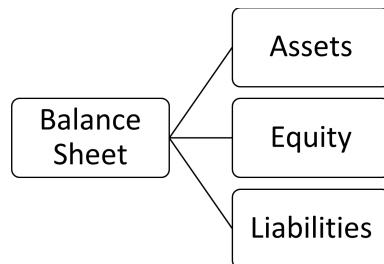
– American Institute of Certified Public Accountants

"Balance Sheet is a screen picture of the financial position of a business at a certain moment."

– R. Stead

Elements of Balance Sheet

The balance sheet is constituted by major three elements which further can have their sub-forms.



Source: Author



Answer the following questions:

- What do you mean by assets?
- What is meant by Equity?
- Do assets have any types?
- What are Liabilities of Business?
- Do liabilities have any types?



All elements of a Balance Sheet have been discussed under the Accounting Terminologies of this unit.

Presentation of Balance Sheet

Balance Sheets can be prepared and presented in horizontal format or vertical format. A vertical Balance Sheet is generally prepared and published by public companies.

Following is the specimen of a Horizontal Balance Sheet:

Balance Sheet of _____ as on March 31, 2021:

Liabilities	Amount (₹)	Assets	Amount (₹)
Equity	XXX	Non-Current Assets	XXX

Owner's capital + Retained earnings - Drawings			
Non-Current Liabilities	XXX	Current Assets	XXX
Current Liabilities	XXX		
Total	XXX	Total	XXX

Source: Author

Following is the specimen of a Vertical Balance Sheet:

Balance Sheet of _____ as on March 31, 2021:

Particulars	Amount (₹)
Application of Funds	
Non-Current Assets	XXX
Current Assets	XXX
Total Assets	XXX
Sources of Funds	
Equity Owner's capital + Retained earnings - Drawings	XXX
Non-Current Liabilities	XXX
Current Liabilities	XXX
Total Equity and Liabilities	XXX

Source: Author



The above specimens of a horizontal and vertical balance sheet are prepared in the solvency/permanency order. Companies can prepare their Balance Sheet in either Solvency order or Liquidity order. Generally, public companies do follow solvency/permanency order to prepare balance sheets.



What is meant by marshalling a Balance Sheet?

The arrangement of assets and liabilities in the balance sheet is called "Marshalling". There are two methods of marshalling a balance sheet i.e., order of permanency and order of liquidity.



Key Questions that can get answered through the Balance Sheet are as follows:

- What is the value of assets that the company owns?
- How much financial obligation does the company owe to externals?
- How much stake the shareholders have in the company?
- What is the cash position of the Company?
- How many reserves and surplus the company has on a specific date?



The Balance Sheet is always equated. It means the total assets should always be equal to equity and liabilities.

Statement of Profit & Loss

It shows the company's revenues, costs, and expenses during a particular period. It also shows whether a company is making a profit or loss for a given period. The P&L statement is synonymous with the income statement. It provides information about a company's ability or inability to generate profit by increasing revenue, reducing costs, or both. Some refer to the Statement of Profit & Loss as P&L statement, income statement, statement of income, statement of operations, statement of financial results or income, earnings statement, or expense statement.

Elements of Statement of Profit & Loss

Sales/Revenue: Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations. Revenue, also known as gross sales, is often referred to as the "top line" because it sits at the top of the income statement. Income, or net income, is a company's total earnings or profit.



Both revenue and net income are useful in determining the financial strength of a company, but they are not interchangeable.



Revenue is commonly referred to as sales. But revenue is any income a company generates before expenses are subtracted while sales are what the firm earns from selling goods and services to its customers.

COGS: Cost of Goods Sold (COGS) are the direct costs associated with the production of the goods sold in a company. This amount includes the cost of the materials used in creating a company's products along with the direct labor costs used to produce them.

Formula:

$$\text{COGS} = \text{Opening stock} + \text{Cost of Raw materials consumed} + \text{Direct labor} + \text{Any other Direct expense related to production} - \text{Closing Stock}$$

Gross Profit: Gross profit is revenue minus the cost of goods sold (COGS). It is also known as "top line" profit because it sits at the top of the income statement.

Other Operating Expenses: All fixed and variable expenses associated with operating the business, such as salaries, insurance, rent, commission, utilities, and payroll, etc. for a particular accounting period.

Operating Profit/Loss: Operating profit is the positive figure that is earned by deducting all other operating expenses from gross profit earned by business during a particular accounting period.



A company will earn operating profit if its gross profit exceeds all other operating expenses. And a company will incur an operating loss if all other operating expenses exceed its gross profit.

Non-Operating Expenses/Loss: Non-Operating Expenses or losses are all expenses that are unrelated to core business operations. It includes interest payments, losses due to disposition of assets, reorganizing costs, and charges on obsolete goods or inventory. Non-Operating Expenses are usually non-recurring and do not include day-to-day business costs.

Non-Operating Profits/income

es/gains: Non-operating income is the portion of an organization's income that is earned from non-core business operations.



Dividend income, profits, or losses from investments, profits, or losses from the sale of fixed assets, as well as gains or losses incurred by foreign exchange and asset write-downs.

PBIT: PBIT stands for Profit before Interest and Taxes. PBIT is that portion of an organization's profit that is derived by deducting all other operating expenses of business from operating profit earned by business during a particular accounting period.

$$\begin{aligned} \text{PBIT} &= \text{Operating Profit} - \text{other operating expenses} \\ \text{PBIT} &= \text{Gross Profit} - \text{Total Operating cost} \\ \text{Total Operating Cost} &= \text{COGS} + \text{other operating expenses} \end{aligned}$$

Finance Cost: It is known as “borrowing costs” and “financing costs”. It generally includes the interest expenses that a company incurs on its long-term and short-term borrowings.



- Indian companies follow either Ind AS 23 or AS 16 for accounting for their Borrowing cost.
- As per Ind AS 23, “Borrowing costs” means “Interest and other costs”, which is incurred by an enterprise for the arrangement and then allocation of funds.

PBT: PBT stands for Profit before taxes. PBT is that portion of an organization's profit that is derived by deducting all other Finance costs (Interest Expenses) of business from PBIT earned by business during a particular accounting period.

Tax: Tax connotes to the income tax liability of a company. It refers to the tax amount that a company is required to pay to Income Tax Department (ITD) on its PBT as per income tax slabs applicable for a particular accounting year.

PAT: PAT stands for Profit after taxes. It is that portion of an organization's profit that is left in the hand of a company after paying tax expenses. It is the amount/surplus that is left for the shareholders of the company after meeting all operating & non-operating expenses, borrowing costs, and tax liabilities. The company's management decides the portion of PAT that can be distributed to shareholders as dividends and the portion of PAT that can be kept as retained earning for reaping profitable business opportunities and meeting business contingencies.

Following is the specimen of a Vertical Statement of Profit & Loss:

Statement of Profit & Loss of _____ for the year ending March 31, 2021:

Particulars		Amount
	Sales	XXX
Less	COGS	XXX
	Gross Profit	XXX
Less	Other Operating Expenses/Losses	XXX
	Operating Profit/Loss	XXX
Less	Non-Operating Expenses/Losses	XXX
Add	Non-Operating Profits/Incomes/Gains	XXX
	PBIT	XXX
Less	Interest	XXX
	PBT	XXX
Less	TAX	XXX
	PAT	XXX

Source: Author



Key Questions that can get answered through the Statement of Profit & Loss are as follows:

- Did a company earn a profit?
- What is the company’s rate of return?
- Are revenues higher or lower than the last period?
- Are expenses higher or lower than the last period?
- How did we do this month vs. last month? This quarter vs. last quarter? This year vs. last year?
- How do our actual results compare to the budget?
- How do our firm’s financials compare to others in our industry?

Cash Flow Statement

The cash flow statement provides a summary of all transactions related to cash inflows and cash outflows in an organization during an accounting period. It gives reasons for cash receipts and payments in an accounting period. It is used to analyze the cash position of a company by various stakeholders.



What is meant by cash flows?

Cash Flows mean the movement of cash in or out of an organization. When the company pays cash for any cause, it is termed Cash outflow. And when the company received cash for any cause, it is termed Cash inflow.

Components of a Cash Flow Statement

The cash flow statement summarizes the transactions leading cash flows under three components, namely, Cash flows from Operating Activities, Cash flows from Investing Activities, and Cash flows from Financing Activities.

Cash flows from operating activities: The operating activities on the Cash flow statement include any sources and uses of cash from core business activities.



- Income tax payments
- Salary and wage payments to employees
- Rent payments
- Receipts from sales of goods and services
- Payments made to suppliers of goods and services used in production
- Any other type of operating expenses

Cash flows from investing activities: The investing activities on the Cash flow statement include any sources and uses of cash from investment-related business activities such as the Sale and purchase of Non-current assets and long-term investments.



- Purchase of Plant
- Sale of Machinery
- Purchase of trademark
- Sale of a Brand
- Purchase of Long-term investments
- Interest received on Long-term investments

Cash flows from financing activities: The financing activities include sources and use of cash from financing activities such as raising funds through equity share, borrowing funds from banks, the redemption of debt-instruments, long-term borrowing cost, etc.



- Raised Long term loan
- Issue of Equity shares
- Redemption of Preference shares
- Redemption of Debentures
- Interest paid
- Dividend paid



There are two methods namely the Direct Method and the Indirect Method to calculate Cash flows from operating activities. Mostly, public companies prepare and present cash flow statements using the Indirect Method.

You will learn detailed format, preparation, and analysis of cash flow statements in Unit 6.

Did you know?

Statement of Changes in Equity

It is a reconciliation between the opening balance and closing balance of shareholder's equity. It summarizes the transactions related to the shareholder's equity over an accounting period. It records movement in retained earnings, other reserves, and changes in share capital.

As per the IND AS, this statement of changes in equity is to be presented and it includes the following:

- Reconciliation of the opening and closing balances of equity, describing the changes in detail.
- Details of comprehensive income for the accounting period.
- Details of changes and the impact when components of equity are restated or applied retrospectively following the IAS/Ind-AS 8.



What are the purposes of preparing financial statements?

- Accounting provides necessary information for decisions to be taken initially and it facilitates the enterprise to pave way for the implementation of actions.
- It exhibits the financial track path and the position of the organization.
- Being a business in a dynamic environment is required to face the ever-changing environment. To meet the needs of the ever-changing environment, the policies are to be formulated for the smooth conduct of the business.
- It equips the management to discharge the obligations at every moment.
- Obligations to customers, investors, employees, to renovate/restructure, and so on.

Summary

- Accounting is the process of recording, classifying, summarizing in a significant manner of transactions that are in financial character, and finally, results are interpreted.
- The revenues are recognized only at the moment of realization but the expenses are recognized at the moment of payment.
- The charges which were paid only are taken into consideration but the outstanding, not yet paid is not considered.
- The revenues are recognized only at the time of occurrence and expenses are recognized only at the moment of incurring.
- The financial statements are found to be more useful to many people immediately after presentation only to study the financial status of the enterprise from the angle of their objectives.
- The entire accounting system is governed by the practice of accountancy.
- Accountancy is being practiced through the universal principles which are wholly led by the concepts and conventions.
- The money measurement concept tunes the system of accounting as fruitful in recording the transactions and events of the enterprise only in terms of money.
- Business entity concept treats the owner as totally a different entity from the business.
- Going concern concept deals with the quality of long-lasting status of the business enterprise irrespective of the owners' status, whether he is alive or not.
- The matching concept only makes the entire accounting system a means to determine the volume of earnings or losses of the firm at every level of the transaction.
- Duality or Double-entry accounting concept is the only concept that portrays the two sides of a single transaction.
- Journal is the first book of the original entries in which all the business transactions of the financial nature are recorded, then posted to ledger accounts.
- Accounts are of three types – Personal, Real, and Nominal Account.

- A Personal Account is an account which deals with a due balance either to or from these individuals on a particular period.
- Real Accounts is the account that especially deals with the movement of assets.
- A nominal Account is an account deals with the number of expenses incurred or incomes earned.
- IFRS is a set of high-quality and globally acceptable financial accounting standards stating how particular types of transactions and other events should be reported in financial statements. It aims to provide a common global language for business affairs so that company accounts are understandable and comparable across international boundaries.
- Ind AS are a set of accounting standards notified by the Ministry of Corporate Affairs, Government of India which are converged with IFRS. These standards are formulated by the Accounting Standards Board (ASB) of the Institute of Chartered Accountants of India (ICAI).

Keywords

Accounting Conventions: Customs and traditions which guide the accountants to record the financial transactions.

Accounting Equation: The recording of business transactions in the books of account is based on a fundamental equation called Accounting Equation.

Accounting Process: It includes the recording of financial transactions, ledger posting, preparation of financial statements, and analyzing and interpretation of them.

Accounting Standards: It is a set of certain generally accepted rules, principles, concepts, and conventions issued by the Institute of Chartered Accountants of India in consultation with other International Accounting bodies.

Asset: Any physical thing or right owned that has monetary value is an asset.

Cost Accounting: Accounting relating to the ascertainment of the cost of the product.

Financial Statements: These include the Trading and Profit & Loss Account, and Balance Sheet of the business.

Golden Rules: These are fundamental rules for the entry of recording the financial transactions under the duality concept.

Gross Loss: It is the excess of the cost of sales over sales.

Gross Profit: It is calculated by comparing the sales and cost of sales. It is the excess of sales over the cost of sales.

IFRS: International Financial Reporting Standards (IFRS) is a set of accounting standards developed by the International Accounting Standards Board (IASB) for the preparation of Corporate financial statements

Ind AS: Ind AS is a set of accounting standards notified by the Ministry of Corporate Affairs, Government of India which are converged with IFRS.

Journal: The primary book in which the business transactions are recorded for the first time.

Ledger: It is the classification of accounts in which various accounts are maintained.

Liability: It means the amount which the firm owes to outsiders that is, accepting the proprietors.

Management Accounting: Presenting accounting information in such a way as to assist the management in taking important decisions and making the policies.

Materiality: Financial statements should disclose all "material" items, i.e. items the knowledge of which might influence the decisions of the user of the financial statements.

Net Loss: Excess of expenditures over revenues is called a net loss.

Net Profit: It is the excess of revenues over expenses. It is depicted by P&L A/c.

Nominal A/c: Accounts which are relating to the revenues, incomes, expenses, and losses of the

business are called nominal accounts.

Personal A/c: Accounts that are related to the persons, firms, companies, and representatives.

Stock: The goods purchased are for selling, if the goods are not sold out fully, a part of the total goods purchased is kept with the trader until it is sold out, it is said to be a stock.

Trial Balance: It is the list of accounts taken from the ledger.

Self-Assessment/ Evaluation

Fill in the Blanks:

1. is the process of recording, classifying, summarizing in a significant manner of transactions which are in financial character, and finally results are interpreted.
2. The users of accounting are and external.
3. Accounting records all the transactions which can be expressed either in
4. The creditors are interested to know the of the business.
5. The primary objective of accounting is to maintain the records of all of the business.
6. Every financial transaction of the business has and recorded at two places.
7. The revenues are recognized only at the moment of
8. Book Value = Gross (Original) value of the asset
9. The are the persons who owe to an enterprise an amount for receiving goods or services on credit.
10. is a liability which arises only on the happening of an uncertain event.
11. = total assets - total liabilities.

Multiple Choice Questions:

12. Three key activities of the accounting function are identifying transactions, recording transactions, and communicating transactions. The proper order for these activities is considered to be which of the following?
 - (a) Communicating, recording, and identifying
 - (b) Recording, communicating, and identifying
 - (c) Identifying, communicating, and recording
 - (d) Identifying, recording, and communicating
 - (e) None of the above
13. Which one of the following users of accounting information is considered to be an external user of accounting information rather than an internal user of accounting information?
 - (a) Sales staff
 - (b) Company managers
 - (c) Company customers
 - (d) Officers and directors
 - (e) Budget officers
14. All of the following people can properly be called managers. Which one of the following individuals is not considered an internal user of accounting information?
 - (a) Service manager
 - (b) Research and development manager
 - (c) Production manager
 - (d) Partner in CA firm charged with conducting the company's external audit
 - (e) Human resources manager

15. A college student pays 150 cash for her textbook. In the student's opinion, the textbook is worth 50. In accounting, however, the value of the textbook is assumed to be and is recorded at the 150 amount. The accounting principle that is most demonstrated by this example is:

- a) The cost principle
- (b) The going-concern principle
- (c) The business entity principle
- (d) The monetary unit principle
- (e) The conservatism principle

16. The basic accounting equation is $\text{Assets} = \text{Liabilities} + \text{Equity}$. The Equity term of the equation can be further broken down into several other terms. Assume that the entity is a sole proprietorship. Which of the following statements is correct?

- (a) Additional investments by the business owner will increase equity, and revenues will decrease equity.
- (b) Additional investments by the business owner will decrease equity, and revenues will increase equity.
- (c) Increases in expenses will decrease equity, and owner withdrawals will decrease equity.
- (d) Revenues will increase equity, and owner withdrawals will increase equity.
- (e) Revenues will decrease equity, and owner withdrawals will increase equity.

17. If at the end of the accounting period the company's liabilities total ₹19,000 and its equity totals ₹40,000, then what must be the total of assets?

- (a) ₹14,000
- (b) ₹40,000
- (c) ₹21,000
- (d) ₹59,000
- (e) None of the above

18. If during the current accounting period the company's assets increased by ₹24,000 and equity increased by ₹5,000, then how did liabilities change?

- (a) Increased by ₹29,000
- (b) Increased by ₹24,000
- (c) Decreased by ₹5,000
- (d) Decreased by ₹19,000
- (e) Increased by ₹19,000

19. As being an active investor of Indian Capital Markets, if you will get confronted with some Financial reporting issue in the annual reports of certain companies of the same industry related to 1 certain Accounting standard, which body will you refer to raise that issue?

- a) Company Law Board
- b) Institute of Chartered Accountants of India
- c) Income Tax Department
- d) Reserve Bank of India

20. One Indian MNC which has 7 subsidiaries and 3 associates operating in India is required to follow Ind AS for preparing its financial statements as per the guidelines of MCA. The given MNC will be required to prepare which financial statements as per Ind AS?

- a) Both consolidated as well as standalone financials of the company.
- b) Only consolidated financials
- c) Only standalone financials

d) Optional

Review Questions

1. Accounting is the process of recording, classifying, and summarizing accounting transactions. Explain.
2. What are the key internal and external users of accounting information?
3. State the key branches of accounting.
4. What is the meaning of Debit and Credit?
5. Explain the various types of accounts.
6. Every debit transaction is appropriately equated with the transaction of credit. Define.
7. Singhania Chartered Accountants Firm established in the year 1956, having a very good number of corporate clients. It continuously maintains the quality in audit administration with the clients since its early inception. The firm is eagerly looking for promising students who are having greater aspirations to become auditors. The firm is having an objective to recruit freshers to conduct a preliminary auditing process with their corporate clients. For which the firm would like to select the right person who is having conceptual knowledge as well as application on the subjects. It has given the following Balance sheet to the participants to study the conceptual applications. The participants are required to enlist the various concepts and conventions of accounting.
 - (a) List out the various accounting concepts dealt with in the above balance sheet.
 - (b) Explain the treatment of accounting concepts.
8. What are the key accounting conventions?
9. "Accounting equation remains intact under all circumstances" Justify the statement with the help of an example.
10. Prepare accounting equation from the following Transactions:
 - (i) Hemant started the business with cash of ₹3,00,000
 - (ii) Purchased goods for cash ₹80,000
 - (iii) Sold goods [costing 30,000] for cash ₹45,000
 - (iv) Purchased goods from Monika ₹70,000
 - (v) Salary paid ₹7,000
 - (vi) Commission received ₹5,000
 - (vii) Paid Cash to Monika in full settlement ₹69,000
11. Prepare accounting equation based on the following:
 - (i) Anup started a business with cash of ₹250,000
 - (ii) Purchased goods for cash ₹35,000
 - (iii) Purchased office furniture for cash ₹12,000
 - (iv) Paid rent ₹7,000
 - (v) Sold goods (costing ₹30,000) for ₹50,000 for cash
12. Show the accounting equation based on the following transactions:
 - (i) Manu started business Cash ₹600,000 Goods ₹1,00,000
 - (ii) Purchased office machine for cash ₹90,000
 - (iii) Sold goods (costing ₹60,000) for credit to Asha
 - (iv) Purchased building for cash ₹1,30,000
 - (v) Cash received from Ashu ₹80,000
 - (vi) Purchased goods on credit to M/s Ashok Trader for cash ₹70,000
 - (vii) Salaries paid ₹6,000
 - (viii) Insurance prepaid ₹10,000
 - (ix) Cash paid to M/s Ashok traders in full settlement ₹68,000
13. Identify the accounts, and their nature involved in each following transaction and pass journal entries of the same:

June 1	Ram commenced business with cash ₹10,000
June 2	Paid to Bank ₹8,000
June 3	Bought goods for cash ₹500
June 4	Bought Furniture for office ₹400
June 10	Withdrew from Bank cash for office ₹1,000
June 13	Goods sold to Shyam ₹600
June 15	Bought goods of Krishan ₹410
June 18	Trade Expenses paid ₹100
June 19	Received cash from Shyam ₹590 and allowed him a discount of ₹10
June 25	Wages paid ₹50
June 28	Krishan paid off in full settlement of his account ₹400
June 30	Rent paid ₹100

14. Classify the following accounts as per the modern classification of accounts:
- Cash brought in as capital
 - Machinery purchased
 - Goods sold for cash
 - Goods purchased for cash
 - Goods sold for credit
 - Goods purchased on credit
 - Rent Paid
 - Dividend Received
 - Discount allowed
 - Discount received
 - Plant purchased
 - Furniture sold.
 - Withdrew for personal use
 - Cash received from debtors
 - Electricity Paid
 - Wages Paid
 - Royalty Received
 - Bad debts written off
 - Bank overdraft
 - Purchases returns / returns inward
 - Sales returns/returns outward.
 - Purchases during the period
 - Sales during the period
15. ABC Ltd.'s transactions for the month of January were as follows:
- Jan. 1 Issued equity shares of ₹20,00,000 (cash received in full).
 - Jan. 5 Purchased land for ₹5,75,000.
 - Jan. 8 Purchased a building for ₹4,40,000, paying ₹1,40,000 in cash and the balance payable in three monthly installments.
 - Jan. 15 Purchased machinery worth ₹2,20,000.
 - Jan. 20 Purchased syrup (raw material) for making soft drinks worth ₹5,75,000, paying ₹1,75,000 in cash.
 - Jan. 25 Purchased further machinery worth ₹50,000.
 - Jan. 31 Sold cold drinks worth ₹50,000 (consuming ₹30,000 of syrup).
- Show the effects of the above transactions upon the accounting equation.
16. Journalise/explain the rule of debit and credit in the following cases, indicating clearly the nature of the accounts.
- July 1 Goods purchased from Rao for ₹20000

- July 5 Goods sold for cash ₹4000
 July 7 Paid to Rao ₹10000
 July 10 Goods purchased for cash ₹3000
 July 17 Paid salaries ₹5000
 July 24 Goods sold to Reddy ₹12000
 July 31 Rent paid ₹2000
17. What is IFRS? Who issues IFRS?
 18. Explain the need for following IFRS.
 19. Explain the roadmap of implementing IFRS in India.
 20. Why do investors need financial statements?
 21. Why do shareholders and management need financial statements?
 22. State the reasons for which creditors, tax authorities, Government consider the company's financial statements.
 23. Why does a company prepare financial statements?
 24. Which financial statements are prepared and presented by a company?

Answers: Self-Assessment

- | | | | | | |
|--------------------------|-----------------------------|---------------------------|-------|-------|-------|
| 1. Accounting | 2. Internal | 3. Money or money's worth | | | |
| 4. Solvency | 5. Transactions | 6. Dual effect | | | |
| 7. Realization | 8. Accumulated depreciation | 9. Debtors | | | |
| 10. Contingent liability | 11. Capital | | | | |
| 12. D | 13. C | 14. D | 15. A | 16. C | 17. D |
| 18. E | 19. B | 20. A | | | |

Further Reading



1. Management Accounting by Khan M.Y And Jain P.K, Mcgraw Hill Education
2. Financial Accounting for Management by Shah Paresh, Oxford University Press
3. A Textbook of Accounting for Management by Maheshwari. S.N, Maheshwari Sharad. K, Maheshwari Suneel. K, Vikas Publishing House
4. Financial Accounting for Management: An Analytical Perspective by Gupta Ambrish, Pearson Education India
5. Financial Accounting by Goyal V.K, Excel Books, New Delhi
6. Accounting & Finance for Managers by Pandikumar M.P, Excel Books, New Delhi.



1. <https://www.iedunote.com/accounting-objectives#:~:text=The%20main%20objectives%20of%20accounting,ascertained%20through%20the%20accounting%20process.>
2. <https://outbooks.co.uk/latest-thinking/what-are-the-different-branches-or-types-of-accounting/>
3. <https://www.iedunote.com/users-of-accounting-information#:~:text=Users%20of%20accounting%20information%20are,managers%2C%20employees%20of%20the%20company.>
4. <https://cleartax.in/s/applicability-ind-as#:~:text=The%20Ministry%20of%20Corporate%20Affairs,the%20Accounting%20period%202016%2D17.>
5. <https://cleartax.in/s/accounting-golden-rules>
6. <https://www.accountingcoach.com/accounting-equation/explanation>
7. <https://www.accountingtools.com/articles/types-of-financial-statements.html>

Unit 02: Corporate Financial Statements

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Objectives

Introduction

2.1 Features and Importance

2.2 Vertical Format of Corporate Financial Statements

2.3 Conceptual framework of depreciation and amortization

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Objectives

After studying this unit, you will be able to:

- explain the meaning and features of Corporate Financial Statements.
- review the importance of preparation of Corporate Financial Statements.
- prepare vertical corporate financial statements.
- illustrate the meaning of depreciation and amortization.
- assess the value of depreciation as per various methods.
- measure the amortization value of an intangible asset.

Introduction

Section 129(1) of the Companies Act, 2013 provides that the financial statements (i) shall give a true and fair view of the state of affairs of the company or companies, (ii) comply with the accounting standards notified under S. 133, (iii) shall be in the form or forms as may be provided for different class or classes of companies in Schedule III and (iv) the items contained in such financial statements shall be in accordance with the accounting standards.

However, the aforesaid provisions of S. 129(1) shall not apply to any insurance or banking company or any company engaged in the generation or supply of electricity, or to any other class of company for which form of financial statement has been specified in or under the Act governing such class of company.

Section 129(2) provides that at every general meeting of a company, the Board of Directors of the Company shall lay before such meeting financial statements for the financial year.

Fixed assets comprise a significant portion of the total assets of the business. Therefore, their presentation in the financial statements is important. The fixed assets also play an important role in the determination of profit and depicting the financial position of the business. Tangible assets are subjected to depreciation and Intangible assets are amortized. In this unit, features and importance of corporate financial statements, vertical formats of balance sheet and statement of profit and loss, and concept of depreciation and amortization are discussed.

2.1 Features and Importance

Corporate Financial statements are written and formal records that convey the business activities and the financial performance of a company.

Types of Corporate Financial Statements

There are the following four primary corporate financial statements:

- Balance Sheet
- Statement of Profit & Loss
- Cash Flow Statement
- Statement of Changes in Equity



We have already discussed the meaning and major components of above mentioned four corporate financial statements in the previous unit.

Features of Corporate Financial Statements

The need and demand for accounting information by various users such as investors, lenders, Government bodies, Tax authorities, creditors, etc., creates fundamental qualitative characteristics that are desirable in accounting information provided through corporate financial statements.

The following are the features or qualitative characteristics of corporate financial statements that should be adhered to by the company at the time of preparing them.

- Understandability
- Materiality or relevance
- Reliability or Faithful representation
- Comparability
- Full Disclosure or Completeness
- Prudence
- Standardized Format
- Timeliness
- General Acceptability
- Consistency
- Compliance
- Substance over form
- Verifiability
- Neutrality

Understandability

The information provided in financial statements must be easily and readily understandable to users of the financial statements. This means that information must be presented clearly, with additional information supplied in the supporting footnotes as needed to assist in clarification.



Use of Lots of Jargons and difficult phrasing in the annual report must be avoided as they may not be understood by users of financial statements or can make them confused.



No material information should be left out of the statement because it is deemed too complex. Even if the information is difficult to understand it must be included if it is of importance.

Materiality or relevance

Materiality or relevance refers to how useful the information is for financial decision-making processes. For accounting information to be relevant, it must possess:

- Confirmatory value - Provides information about past events.
- Predictive value - Provides predictive power regarding possible future events.

Thus, the information can be predictive or confirmatory and usually both.



- The information about the dividend paid in the last year is valuable information for a potential investor.

- Similarly, information about the asset structure of the company can help a user evaluate the future of a company.

The Financial Statements should be relevant for the purpose for which they are prepared. Unnecessary and confusing disclosures should be avoided and all those that are relevant and material should be reported to the public through financial statements.



Material information means significant information in the context of decision-making. Any information, the presence or absence of which can influence or change the economic decision of a decision-maker is of material or relevance in nature. Material information can be negative and positive information about the company.



The company's plan to close down its ten major branches in the coming accounting year is material information as it can affect the decision of investors for making their investment decisions in the company's stock. This plan of the company can also affect the decision of lenders to provide finance to the company in the future. Thus, the company should disclose the same to its various stakeholders.

Any penalty paid by the enterprise should be disclosed separately even though the amount paid is negligible, payment of any tax also should be disclosed separately and not be merged with office expenses or miscellaneous expenses.

Reliability or Faithful representation

Faithful representation, also known as reliability, is the degree to which information accurately reflects a company's resources, obligatory claims, transactions, events, etc. For accounting information to possess reliability, it must be complete, neutral, free from errors, and not misleading.

Thus, the financial statements and the information thereof should faithfully represent transactions and other events, reflect the underlying substance of events, and prudently represent estimates and uncertainties through proper disclosure.



If the information is relevant but a reliable estimate cannot be made. In such a situation, the information should be included in the notes to accounts.

Comparability

Comparability is the extent to which accounting standards and policies are consistently applied from one period to another. The financial statements or reports and information thereof should be easily comparable with previous statements or with those of similar concerns or industry. Comparability increases the utility of financial statements.



To embed the comparability feature in financial statements, the companies should follow consistent accounting standards and policies throughout each accounting period and should prepare and publish their financial statements in comparative form i.e., along with current year figures, previous year figures of financial elements are also given in financial statements. It will enable the users to draw insightful conclusions about the trends and performance of the company over time.

Full Disclosure or Completeness

As per the full disclosure characteristic, corporate financial statements should convey full and accurate information about the performance, position, progress, and prospects of an enterprise. Financial statements should not exclude any material transaction, event, etc.



If litigation is ongoing and the company predicts they will have to pay a fine. However, the amount of the fine is not predictable. This is important information, so it should be disclosed.

Prudence

Uncertainty surrounds many of the reported events in the financial statements and it is dealt with in those statements by disclosing the nature and extent of the uncertainty involved and by exercising prudence.

Prudence is the extent to which caution has been exercised in making the estimates required under conditions of uncertainty, such that gains, and assets are not overstated and losses and liabilities are not understated.

Under such circumstances, it requires more confirmatory evidence about the existence of, and greater reliability of measurement for, assets and gains than is required for liabilities and losses.



Those who prepare and present the financial statements mustn't allow their personal prejudices to distort the facts and information present in financial reports or statements.

Did you know? What is meant by Prudence?

Prudence means being careful or wise in handling practical matters: exercising good judgment. In an accounting context, prudence refers to provide for or recognize all losses but ignoring anticipated profits.



If the valuation of inventory is always done at a cost, consider a situation where the market price of the relevant goods has reduced below the cost price, then valuing inventory at cost price means ignoring anticipated losses. Similarly, if inventory is always valued at market price, the take a situation where cost price is below market price, indirectly we are recognizing the anticipated gross profit on inventory in the books. Therefore, accounting policy should be cost price or market price whichever is less, in this case, we are ignoring anticipated profits (if any) but any anticipate losses would be taken care of.

Standardized Format

Financial statements should be prepared in a classified form so that a better and meaningful analysis could be made.

Timeliness

The financial statements should be prepared and presented at the right time. Undue delay in their preparation would reduce the significance and utility of these statements.

General acceptability

General acceptability and understanding can be imbibed in financial statements by applying certain "generally accepted accounting principles" in their preparation.

Consistency

The financial statements should not be affected by inconsistencies arising out of personal judgment and procedural choices exercised by the accountant. Companies should apply the same accounting standards and policies throughout each accounting period. Consistency can also be useful in enhancing comparability between entities' financial statements.



Consistency should not be confused with a need for absolute uniformity.

Compliance

Financial Statements should comply with the legal requirements if any, as regards form, contents, and disclosures, and methods.

In India, companies are required to prepare and present their financial statements according to Schedule III, Companies Act, 2013. Moreover, they should follow Ind As or Indian accounting standards for the preparation of financial statements.

Substance over form

The accounting treatment and presentation in the financial statement of transactions and events should be governed by their substance and not merely by the legal form.



The ownership of an asset purchased on hire purchase is not transferred till the payment of the last installment is made but the asset is shown in the books of the hire purchaser. Similarly, in the case of the amalgamation, the entry for amalgamation in the books of the amalgamated company is recorded based on the status of shareholders of amalgamating company after amalgamation i.e. if all or almost all the shareholder of the amalgamating company by virtue of amalgamation, we record all the transactions as Amalgamation in nature of Merger otherwise it is recorded as Amalgamation in nature of purchase.

Verifiability

Verifiability is the extent to which information is reproducible given the same data and assumptions.



If a company owns equipment worth ₹21,000 and told an accountant the purchase cost, salvage value, depreciation method, and useful life, the accountant should be able to reproduce the same result. If they cannot, the information is considered not verifiable.

Neutrality

Neutrality is also known as the quality of 'freedom from bias' or objectivity. It means that, in formulating or implementing standards, the primary concern should be the relevance and reliability of the information.

The information provided by financial statements needs to be neutral—in other words, free from deliberate or systematic bias. Financial information is not neutral if it has been selected or presented in such a way as to influence the making of a decision or judgment to achieve a predetermined result or outcome.



Relevance and faithful representation are fundamental qualitative characteristics of financial information; however, other features are enhancing qualitative characteristics.

Importance of Corporate Financial Statements

The importance of financial statements lies in their utility to satisfy the varied interest of different stakeholders or users such as management, shareholders, creditors, public, customers, etc. Let's discuss the importance of corporate financial statements to each user as follows:

For Management

The management needs updated, accurate, and systematic financial information for most of the purposes. Financial statements help the management to understand the position, progress, and prospects of business vis-a-vis its past and the industry. By providing the management with the causes of business results, financial statements enable management to formulate appropriate business policies and future courses of action.



The importance of corporate financial statements lies in the assistance that these statements provide to management for taking various business decisions and framing business policies & strategies.

For Shareholders

These financial statements enable the shareholders to know about the efficiency and effectiveness of the management and also the earning capacity and financial strength of the company. As management and ownership are in different hands in the case of a company, thus it is the financial statements that act as a means of communicating financial results and the position of the company to shareholders.



The prospective shareholders could ascertain the profit earning capacity, present position, and prospects of the company and decide about making their investments in this company by analyzing the financial statements of a company.

Published financial statements are the main source of information for prospective investors.

For Lenders/Creditors

It is through a critical examination of the financial statements that lenders/creditors can come to know about the liquidity, profitability, and solvency position of a company. This would help them to decide about their future lending decisions in context to a specific company.

For Employees

The employees are entitled to salary hikes, appraisals, promotions, bonuses depending upon the size of profit as disclosed by an audited statement of profit and loss.

For Public

As business is a social entity thus various directly or indirectly related groups of society, are interested in knowing the position, progress, and prospects of a business enterprise.



Financial analysts, lawyers, trade associations, trade unions, financial press, research scholars and teachers, etc. can analyze, judge, and comment upon the business enterprise through the business financial statement.

For Economy

Financial statements are also essential for the various regulatory bodies such as tax authorities, Registrar of companies, etc. They can judge whether the regulations are being strictly followed and whether the regulations are producing the desired effect or not, by evaluating the financial statements.



There are other groups of users such as consumers, customers, business consultants, etc. who use financial statements for making decisions.

2.2 Vertical Format of Corporate Financial Statements

Vertical Balance Sheet

Key Elements of Balance Sheet



Capital work-in-progress: It represents costs incurred to date on a fixed asset which is still under construction at the balance sheet date.

Debentures: It is a long-term security i.e., type of bond or other debt instrument yielding a fixed rate of interest, issued by a company and generally unsecured by collateral.

Deferred tax assets: A deferred tax asset results from overpayment or advance payment of taxes. It is the opposite of a deferred tax liability, which represents income taxes owed.

Financial assets: A financial asset is a non-physical asset whose value is derived from a contractual claim, such as bank deposits, bonds, and participations in companies' share capital. Financial assets are usually more liquid than other tangible assets, such as commodities or real estate.

Provisions: A provision is an amount set aside from a company's profits to cover an expected liability or a decrease in the value of an asset, even though the specific amount might be unknown.

Goodwill: Goodwill is an intangible asset associated with the purchase of one company by another. Specifically, goodwill is recorded in a situation in which the purchase price is higher than the sum of the fair value of all visible solid assets and intangible assets purchased in the acquisition and the liabilities assumed in the process. The value of a company's brand name, solid customer base, good customer relations, good employee relations, and any patents or proprietary technology represent some examples of goodwill.

The following is the format of Vertical Balance Sheet prepared in order of permanency:

Balance Sheet as at March 31, 2021			
Particulars	Note	As at March 31, 2021 (₹)	As at March 31, 2020 (₹)
ASSETS			
(1) Non Current assets			
i. Property, Plant and Equipment			
ii. Capital work-in-progress			
iii. Goodwill			
iv. Other Intangible assets			
v. Financial assets			
• Investments in subsidiaries, joint ventures and associates			
• Investments			
• Loans			
• Other Financial assets			
vi. Non-current tax assets (net)			
vii. Deferred Tax assets (net)			
viii. Other non-current assets			
(2) Current Assets			
i) Inventories			
ii) Financial Assets			
• Investments			
• Trade Receivables			
• Cash and Cash Equivalents			
• Bank Balance			
• Other Financial Assets			
iii) Other Current Assets			
iv) Assets held for sale			
TOTAL			
EQUITY AND LIABILITIES			
(1) Equity/Shareholders' funds			
a) Share capital			
b) Reserves and surplus			
c) Money received against share warrants			
(2) Liabilities			
2.1) Non-current liabilities			
a) Bonds/Debentures			
b) Term loans from banks or from other parties			
c) Deferred tax liabilities (Net)			
d) Other Long term liabilities			
e) Long-term provisions			
2.2) Current liabilities			
a) Short-term borrowings			
b) Trade payables			
c) Other current liabilities			
d) Short-term provisions			
TOTAL			

Part I of
Balance
SheetPart II
of
Balance
Sheet

Source: Author

Vertical Statement of Profit and Loss

Key Elements of Statement of Profit and Loss

Revenue from Operations: Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations. Revenue, also known as gross sales, is often referred to as the "top line" because it sits at the top of the income statement. Income, or net income, is a company's total earnings or profit.

COGS: Cost of Goods Sold (COGS) are the direct costs associated with the production of the goods sold in a company. This amount includes the cost of the materials used in creating a company's products along with the direct labor costs used to produce them.

The following is the format of Vertical Statement of Profit and Loss:

Statement of Profit and Loss for the year ended March 31, 2021			
Particulars	Note	Year ended March 31, 2021 (₹)	Year ended March 31, 2020 (₹)
Income			
Revenue from operations			
Other income			
Total Income (A)			
Expenses			
i. Cost of material consumed			
ii. Purchases of Stock-in-trade			
iii. Changes in inventory of finished goods (including stock-in-trade) and work in progress			
iv. Employee benefits expenses			
v. Finance costs			
vi. Depreciation and amortization expenses			
vii. Other expenses			
Total Expenses (B)			
• Profit before exceptional items and tax (A-B)			
• Exceptional items (net)			
• Profit before tax			
• Tax expenses			
• Current tax			
• Deferred tax credit / (charge)			
Profit for the year			

Source: Author



You are required to download HUL annual report 2021 and analyze the elements of its Balance Sheet and Statement of Profit and Loss.

2.3 Conceptual framework of depreciation and amortization

Depreciation

The monetary value of an asset decreases over time due to use, wear and tear or obsolescence. This decrease is measured as depreciation. Depreciation is an accounting method of allocating the cost of a tangible or physical asset over its useful life or life expectancy. Depreciation represents how much of an asset's value has been used up.

Depreciating assets helps companies earn revenue from an asset while expensing a portion of its cost each year the asset is in use. Businesses can depreciate long-term assets for both tax and accounting purposes.

Definitions

In the AS-6 the depreciation is defined as, "Depreciation is a measure of wearing out, consumption or other loss of value of a depreciable asset, arising from use, affluxion of time or obsolescence through technology and market changes. Depreciation is allocated so as to change a fair proportion of the depreciable amount in each accounting period during the expected useful life of the asset. Depreciation includes amortization of assets whose useful life is predetermined."

As per International Accounting Standards Committees, "Depreciation is the allocation of the depreciable amount of an asset over its estimated useful life. Depreciation for the accounting period is charged to income either directly or indirectly".

According to J.H. Burton, "Depreciation is the shrinkage in the value of an asset at a given date as compared with its value at a previous date".

From the above definition it is clear that depreciation is gradual fall in the value of the assets due to some reasons.

Accumulated Depreciation

It refers to the sum of all depreciation recorded on an asset to a specific date.

Carrying value of PPE/Asset

The carrying value of an asset on the balance sheet is its historical cost minus all accumulated depreciation.

Objectives of Providing for Depreciation

- **To ascertain the true results of operations:** The true profit can be ascertained only after deducting all costs from the revenue of a period. As the assets are used in the business to earn revenues. The value of assets falls due to such use in the business. Therefore, such a fall in the value should be treated as a cost and should be charged against the profit. Payment for the purchase of assets should be treated a prepaid expense and it should be spread over a period to ascertain the true profit.
- **To present true and fair value of the fixed asset:** Depreciation is computed on the fixed assets. It is shown against the fixed assets in the balance sheet. By doing so the balance sheet depicts the true and fair view of the financial position of the business. If we do not make a provision for depreciation for fixed assets.

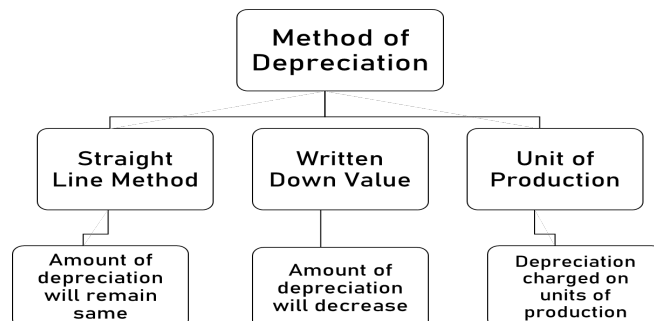
To accumulate funds for the replacement of the asset: If the depreciation on fixed assets is provided and charged against the profit every year, there will be reduction in the profit by the amount of depreciation. If the amount is transferred into a fund account, on the expiry of the life of the machine, there will be creation of depreciation fund to replace the fixed assets.

Charging Depreciation on PPE (Property, Plant and Equipment)

- Each part of an item of property, plant and equipment with a cost should be depreciated separately.
- The depreciation expense for each period should be recognized in the statement of profit and loss.
- The depreciable amount of an asset should be allocated on a systematic basis over its useful life.

Depreciation Methods

The following are the key methods of providing depreciation on PPE:



Source: Author

Straight line method

Straight line depreciation method charges cost evenly throughout the useful life of a fixed asset. This depreciation method is appropriate where economic benefits from an asset are expected to be

realized evenly over its useful life. Straight line method is also convenient to use where no reliable estimate can be made regarding the pattern of economic benefits expected to be derived over an asset's useful life.

Formula

$$\text{Depreciation per annum} = (\text{Cost} - \text{Residual Value}) / \text{Expected Useful Life in years}$$

Written Down Value

Written Down Value method is a depreciation technique that applies a constant rate of depreciation to the net book value of assets each year, thereby recognizing more depreciation expenses in the early years of the life of the asset and less depreciation in the later years of the life of the asset.

Formula

$$\text{Depreciation per annum} = (\text{Cost of Asset net of residual value} - \text{Depreciation charged in previous year}) * \text{Rate of Depreciation in } (\%)$$

Units of Production Method

This method of charging depreciation on the asset is based on the units produced during the year. The estimated total production of the asset is the criteria for providing depreciation.

Formula

$$\text{Depreciation per annum} = [(\text{Cost} - \text{Residual Value}) / \text{Total No. of units expected to be produced from the asset}] * \text{Actual no. of units produced}$$

Amortization

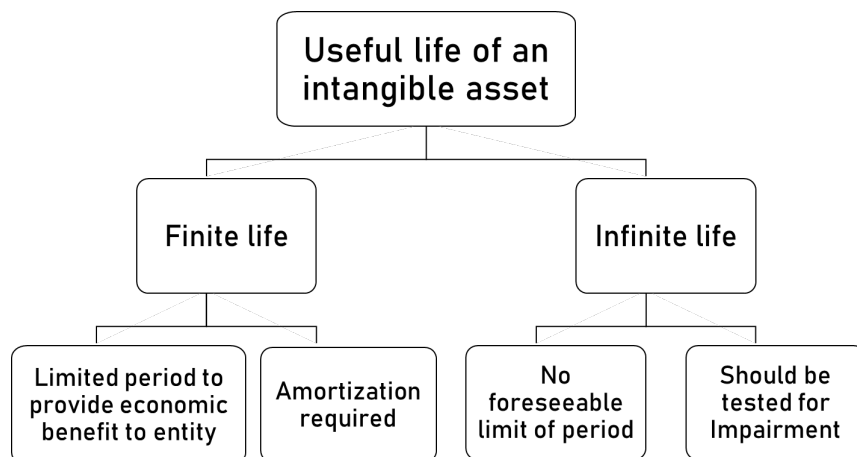
- Amortization is an accounting technique used to periodically lower the book value of a loan or intangible asset over a set period of time.
- In relation to a loan, amortization focuses on spreading out loan payments over time.
- When applied to an intangible asset, amortization is similar to depreciation.

It is the systematic allocation of the depreciable amount of an intangible asset over the best estimates of its useful life. Amortization should start when the asset is available for use.

Did you know: What is difference between Depreciation, Amortization and Depletion?

Amortization is associated with charging intangible assets to expense over time, and depreciation is associated with charging tangible assets to expense over time. Similarly, depletion is associated with charging the cost of natural resources to expense over their usage period.

The following is the snapshot of the Accounting treatment of an intangible asset as per Ind AS 38:



Source: Author



What is impairment?

It is a permanent reduction in fixed assets or an intangible assets' value of a company. During impairment test for an asset, the total benefits in terms of total profit or cash flows

expected to be generated by that specific asset is periodically compared with its current book value. If book value of the asset exceeds the future benefits of the asset, the difference between the book value and future cash flows or benefits is written off and the asset's value declines on the company's balance sheet.



An asset is impaired when its carrying value is greater than its recoverable value.

Summary

- The corporate financial statements actually give a summary of the financial condition and profitability of the firm in both long and short term.
- The prime objective of corporate financial statements is to give information on the performance, financial strength and financial position changes of a company.
- The four basic types of corporate financial statements are:
 1. Income statement
 2. Balance sheet
 3. Statement of cash flows
 4. Statement of changes in Equity
- The uses of financial statements vary from entity to entity. For different people, they have different uses.
- As the historical costs and money measurement concepts govern the preparation of the balance sheet and income statements, hence these financial statements are essentially statements reflecting historical facts.
- Fixed assets are those assets which are held with the intention of being used for the purpose of producing goods or providing services and are not held for the sale in the normal course of business.
- The cost of fixed cost comprises of its purchase price and direct costs and import duties and directly attributable costs.
- Depreciation is the decrease in the value of assets at the given date due to wear and tear, obsolescence, efflux of time, accident and exhaustion.
- There are several methods for providing depreciation on fixed assets. The method of the depreciation is selected on the basis of various factors as – types of assets, nature of business and circumstances prevailing in the business etc.
- Depreciation is a permanent and gradual diminution in the value of an asset caused by usage and effluxion of time.
- The accounting treatment is designed to record all transactions of purchase and sale of an asset and charging of depreciation with the objective of reducing the value of an asset to zero or its residual value as the case may be.

Keywords

Amortization: The process of writing off the intangible assets.

Balance Sheet: The balance sheet is based on the equation: assets = liabilities + owners' equity.

Corporate Financial Statements: The corporate financial statements are the financial reports or formal record of the financial and business activities of a firm.

Cost of Assets: It includes the cost of acquisition, installation, commissioning etc.

Depreciable Assets: Assets which are used in business for more than one accounting year, have a limited useful life, and used in the business for production and not for the purpose of sale.

Depreciation: A permanent fall in the value of assets due to its use in business, efflux of time, obsolescence, and market changes.

Fixed Assets: Those assets which are held in the business with an intention of being used in producing goods or providing services and not held for sale during the normal course of business, are called fixed assets.

Income Statement: The income statements are also called as the profit loss statements.

Residual Value: It is that value which will be fetched from the sale of the assets on the expiry of the useful life of the assets.

Useful Life of Assets: The estimated period for which the assets will be used in the business efficiently.

Self-Assessment

Fill in the blanks:

1. The purpose of the is to show managers and investors whether the company made or lost money during the period being reported.
2. The provides an insight into the financial status of a company at a particular time.
3. Depreciation is the permanent decrease in the value of the
4. Depreciation is calculated on the basis of
5. can be created for replacement of fixed assets.
6. Amount of depreciation if charged on the basis of remains constant for every year.
7. The original value of the asset is the of the asset.

State true or false:

8. The prospective equity investors and lenders use financial statements to decide whether or not to invest in an organization.
9. Existing Customers of an organization use its financial statements to benchmark their own financial results.
10. Board of directors of an organization uses its financial statements to review the performance of management in general and company in particular.

Multiple Choice Questions:

11. How do we describe the process of adjusting the value of an tangible asset by recognizing that it is consumed in a way that does not completely eliminate the resource?
 - a) Adjustment
 - b) Depreciation
 - c) Amortization
 - d) Depletion
12. Which one of the following most closely defines 'Amortization'?
 - a) The depreciation of tangible fixed assets
 - b) The depreciation of intangible fixed assets
 - c) The depreciation of current assets
 - d) The revaluation of land
13. Carrying value = cost minus _____?
 - a) Current Liabilities
 - b) Salvage value
 - c) Accumulated depreciation

- d) Residual value
14. What is process called, where costs of the natural resources are allocated over its useful life?
- Adjustment
 - Depreciation
 - Amortization
 - Depletion
15. Depreciation arises due to?
- Physical wear and tear
 - Fall in the market value of an asset
 - Fall in the value of money
 - None of these

Review Questions

- Briefly explain the four basic types of corporate financial statements.
- State the qualitative features of Corporate Financial Statements.
- Exemplify the importance of Corporate Financial Statements?
- Who are the users of Corporate Financial Statements?
- Describe the key elements of Corporate Financial Statements.
- Draw a specimen of vertical balance sheet.
- Prepare a vertical statement of profit and loss.
- What do you understand by Depreciation?
- What is amortization?
- Explain the key methods of providing depreciation.

Answers: Self-Assessment

- | | | | | |
|-------------------------|-------------------|-----------------|---------------|-----------------------|
| 1. Income statement | 2. Balance sheet | 3. Fixed assets | 4. Cost price | 5. Depreciation funds |
| 6. Straight line method | 7. Purchase value | 8. True | 9. False | 10. True |
| 11. B | 12. B | 13. C | 14. D | 15. A |

Further Readings



- Management Accounting by Khan M.Y And Jain P.K, Mcgraw Hill Education
- Financial Accounting for Management by Shah Paresh, Oxford University Press
- A Textbook of Accounting for Management by Maheshwari. S.N, Maheshwari Sharad. K, Maheshwari Suneel. K, Vikas Publishing House
- Financial Accounting for Management: An Analytical Perspective by Gupta Ambrish, Pearson Education India
- Financial Accounting by Goyal V.K, Excel Books, New Delhi
- Accounting & Finance for Managers by Pandikumar M.P, Excel Books, New Delhi.



- <https://corporatefinanceinstitute.com/resources/knowledge/accounting/qualitative-characteristics-of-accounting-information/>

2. <https://www.accountingtools.com/articles/what-are-the-qualitative-characteristics-of-financial-statem.html>
3. <https://library.croneri.co.uk/spfp003>
4. <https://www.accountingnotes.net/financial-reporting/top-11-qualitative-characteristics-of-accounting-information/5409>
5. <https://www.yourarticlelibrary.com/accounting/financial-statements/financial-statements-features-importance-and-limitations/61727>
6. <https://taxadda.com/depreciation-meaning-methods-calculations/>
7. <https://www.investopedia.com/terms/a/amortization.asp#:~:text=Amortization%20typically%20refers%20to%20the,on%20a%20specific%20maturity%20date.>

Unit 03: Ratio Analysis

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Objectives

After studying this unit, you will be able to:

- illustrate the use of ratio analysis.
- assess the Liquidity position of an organization through liquidity ratios.
- measure the operational efficiency of an organization through efficiency ratios.
- review analyze the financial performance of an organization through profitability ratios.
- assess the long-term financial position of an organization through solvency ratios.

Introduction

In assessing the significance of various financial data, experts engage in ratio analyses, the process of determining and evaluating financial ratios. A financial ratio is a relationship that indicates something about a company's activities, such as the ratio between the company's current assets, current liabilities or between its accounts receivable and its annual sales. These ratios' primary sources are the company's financial statements that contain figures on assets, liabilities, profits, or losses.

Ratio analysis enables the analyst to compare items on a single financial statement or examine the relationships between items on two financial statements. After calculating ratios for each year's financial data, the analyst can then look at trends for the company across years. Since ratios adjust for size, using this analytical tool facilitates inter-company as well as intra-company comparisons. Financial ratios are only meaningful when compared with other information.

3.1 What is Ratio Analysis?

It is an analysis of financial statements with the help of the 'accounting ratio'. It is a quantitative method of gaining insight into a company's liquidity, operational efficiency, profitability, and

solvency position by studying its financial statements. Its purpose is to provide a meaningful understanding of the performance and financial position of an enterprise.



What is meant by ratio?

The ratio illustrates the relationship between the two related variables.

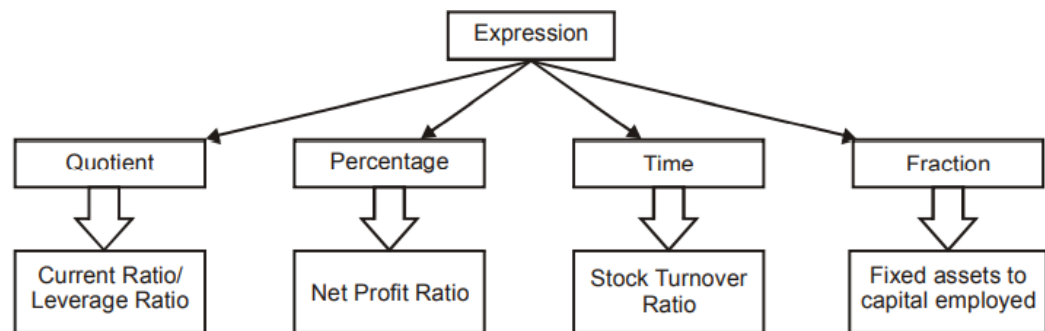
What is meant by the accounting ratio? □ The accounting ratios are computed based on available accounting information extracted from the financial statements.



First, financial statement ratios are "flags" indicating areas of strength or weakness. One or even several ratios might be misleading, but when combined with other knowledge of a company's management and economic circumstances, ratio analysis can talk much about a corporation. Second, there is no single correct value for a ratio. The observation that a particular ratio's value is too high, too low or right depends on the analyst's perspective and the company's competitive strategy. Third, a ratio is meaningful only compared to some standard, such as an industry trend, ratio trend, a ratio trend for the specific company being analyzed, or a stated management objective.

Definition

According to J. Betty, "The term accounting is used to describe relationships significantly which exist in between figures shown in a balance sheet, Profit & Loss A/c, Trading A/c, Budgetary control system or any part of the accounting organization."



Source: Author

According to Myers, "Study of relationship among the various financial factors of the enterprise".

3.2 Importance and Objectives

Objectives of Ratio Analysis

- Simplify accounting information.
- Determine Long-term solvency.
- Determine Short-term solvency.
- Assess the operating efficiency of the business.
- Analyze the profitability of the business.
- Help in comparative analysis, i.e., inter-firm and intra-firm comparisons.

Importance of Ratio Analysis

Accounting ratios help understand the financial position and performance of an enterprise. Bankers, investors, creditors, etc., all can analyze the Balance Sheet and Statement of Profit and Loss using ratios for taking prudent decisions.

3.3 Types of Ratios

The accounting ratios are classified into various categories, viz.:

1. Based on financial statements
2. Based on functions

Based on Financial Statements

1. Income Statement Ratios: These ratios are calculated from Trading's statements, Profit & Loss Account of the enterprise. Some of the significant ratios are the Gross Profit ratio, Net Profit ratio, Expenses Ratio, etc.

2. Balance Sheet or Positional Statement Ratios: These ratios are computed from the balance sheet of the enterprise, which usually reveals the financial status of the position, i.e., short-term, long-term financial situation, the share of the owners on the total assets of the enterprise and so on.

3. Inter Statement or Composite Mixture of Ratios: These ratios are computed by extracting the accounting information from both financial statements to identify stock turnover ratio, debtor turnover ratio, return on capital employed and so on.

Based on Functions

1. Based on the firms' solvency position: Short-term and long-term solvency position of the firms.

2. Based on the firms' profitability: The firms' profitability is studied based on the total capital employed, the total asset used, etc.

3. Based on the firms' effectiveness: The effectiveness is studied through the turnover ratios – Stock turnover ratio, Debtor turnover ratio and so on.

4. Capital structure ratios: The capital structure position is analyzed through leverage ratios and coverage ratios.

3.4 Liquidity Ratios


To study the short-term solvency or liquidity of the firm, the following are various ratios:

1. Current Ratio
2. Acid -Test Ratio
3. Cash Ratio

Current Ratio

It is one of the essential accounting ratios to determine the business fleeces' ability to meet the short financial commitment. This ratio establishes the relationship between the current assets and current liabilities.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

 **Current Assets** = Cash + Bank + Receivables + Short Term Investments+ Inventory + Prepaid Expenses

Current Liability = Creditors + Bank overdraft + Payables + Outstanding Expenses+ Short Term loans + Provision for Taxation + Proposed Dividend



Tata steel has current assets worth of ₹ 30 lac, while the liabilities amount to ₹ 15 lac. What is the current ratio of the firm?

Solution: Current Ratio = 30/15 = 2



Standard norm of the current ratio:

The ideal norm is 2:1, which means that two rupees of current assets appropriately cover every one rupee of current liability.

Interpretation

A high ratio than the specified norm denotes that the firm possesses excessive current assets, then the requirement portrays idle funds invested in the current assets.

A significant limitation of the current ratio is that the current assets are equally weighed against each other to match the current liabilities under this ratio. One rupee of cash is equally weighed at par with the one rupee of closing stock, but the closing stock and prepaid expenses cannot be immediately realized like cash and marketable securities.

Acid-Test/Quick/Liquid Ratio

It indicates the company's ability to instantly use its near-cash assets (assets that can be converted quickly to cash) to pay down its current liabilities; it is also called the acid test ratio.

$$\text{Quick Ratio Formula} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

Quick Assets = Cash + Bank + Receivables + Short Term investment

or

Quick Assets = Current Assets - Inventory - Prepaid Expenses



A company has a closing stock of ₹ 30,000 while its prepaid expenses are ₹ 5000. What will be its quick assets ratio if the current assets are worth ₹ 50000 while current liabilities are worth ₹ 15000?

Solution:

$$\begin{aligned} \text{Quick/Liquid Asset} &= \text{Current Assets} - (\text{Closing Stock} + \text{Prepaid Expenses}) \\ &= 50000 - (30000 + 5000) = 15000 \end{aligned}$$

$$\begin{aligned} \text{Quick Assets Ratio} &= \text{Liquid Assets} / \text{Current Liabilities} \\ &= 15000 / 15000 = 1:1 \end{aligned}$$



Standard norm of the ratio:

The ideal norm is 1:1, which means that one rupee of current liabilities is matched with one rupee of quick assets.

Interpretation

It is a more stringent and reliable ratio for analyzing the Liquidity ratio because assets forming part of quick assets are easily converted into cash on short notice without shrinking their value. The higher the ratio, the better is the liquidity position of the company.

However, the too high ratio will bring negative consequences as it too high a liquid ratio suggests that the business is carrying ideal cash or liquid assets.

Cash/Absolute Liquid Ratio

The ratio establishes the relationship between absolute liquid assets and the current liabilities of the firm.

$$\text{Absolute Cash Ratio} = \frac{\text{Cash} + \text{Bank Balance} + \text{Marketable Securities}}{\text{Current Liabilities}}$$



Standard norm of the ratio:

The most favourable and optimum value for this ratio is 1: 2.



The following are the various current assets owned and current liabilities by Basmati mills as of March 31, 2021:

Current Liabilities	Amount (₹)	Current Assets	Amount (₹)
Bills Payable	60000	Bills Receivable	70000
Sundry Creditors	70000	Sundry Debtors	90000
Bank Overdraft	30000	Bank Balance	25000
Outstanding Expenses	5000	Marketable Securities	15000
		Prepaid Expenses	5000
		Stock	30000
Total	165000	Total	235000

Calculate the following from the above information:

- Current Ratio
- Acid-test Ratio
- Cash Ratio

3.5 Turnover Ratios

A turnover ratio represents the number of assets or liabilities a company replaces to its sales. The ratio indicates that the firm's rate of speed for converting the assets into sales. Turnover ratios help determine the efficiency with which a business utilizes its assets.

Types of Turnover Ratios

- Inventory Turnover Ratio
- Debtor Turnover Ratio
- Creditor Turnover Ratio
- Inventory Turnover Ratio

Inventory/Stock Turnover Ratio

The ratio expresses the speed of converting the stock into sales. In other words, how fast the stock is being converted into sales in a year.

$$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} \text{ or } \frac{\text{Sales}}{\text{Closing Stock}}$$

$$\text{COGS} = \text{Sales} - \text{Gross Profit}$$

or

$$\text{Opening Stock} + \text{Purchases} + \text{Direct Expenses} - \text{Closing stock}$$

$$\text{Average Inventory} = \frac{(\text{Opening stock} + \text{Closing Stock})}{2}$$



Standard norm of the ratio:

The higher the ratio, is better the firm in converting the stock into sales and vice versa.

Interpretation

A higher number is better. A lower number (compared with the previous period or competitors) suggests a problem with stock control.

Some issues to consider

- Inventory turnover varies from industry to industry.
- It is not relevant for many service sector businesses.
- Seasonal fluctuations in demand during the year may not be reflected in the calculations.

Inventory Conversion Period or Stock Velocity

The next step is to determine the number of days or weeks, or months that have been taken or consumed by the firm to convert the stock into sales volume. It reports to us about the average time to convert our total inventory into sales. Inventory Conversion Period (in Days)

Inventory Conversion Period

$$\begin{aligned} \text{a)} \quad & \frac{\text{Days in year}}{\text{Inventory Turnover Ratio}} \\ \text{b)} \quad & \frac{\text{Inventory}}{\text{Cost of Sales}} \times 365 \end{aligned}$$



Stock velocity can be calculated in months and weeks as well. In such case, the formula of calculating stock velocity will be:

$$\text{Stock Velocity} = \frac{365 \text{ days} / 52 \text{ weeks} / 12 \text{ months}}{\text{Stock Turnover Ratio}}$$

Interpretation

Lower the duration is better for the firm position in converting the stock into sales and vice versa.



Compute the inventory turnover ratio and average selling period from the following data of a trading company:

Sales: ₹ 75,000

Gross profit: ₹ 35,000

Opening inventory: ₹ 9,000

Closing inventory: ₹ 7,000

Debtors or Receivable Turnover Ratio

It is an accounting measure used to measure how effective a company is in extending credit and collecting debts.

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit sales}}{\text{Average Accounts Receivables}}$$



Net Credit Annual Sales = Total Sales - Cash Sale

Trade Debtors/ Receivables = (Sundry Debtors + Bills/Notes Receivables)

Average Trade Debtors = $\frac{\text{(Opening Trade Debtors + Closing Trade Debtors)}}{2}$

2

Interpretation

The higher the ratio is, the better the position of the firm in collecting the overdue. A higher ratio means the effectiveness of the collection department and vice versa.

Average Collection Period or Debtors Velocity

The collection period is the amount of time it takes for a business to receive payments owed by its clients. Companies calculate the average collection period to ensure they have enough cash on hand to meet their financial obligations.

Average Collection Period

$$\begin{aligned} \text{a) } & \frac{365}{\text{Debtors Turnover Ratio}} \\ \text{b) } & \frac{\text{Average Accounts Receivable}}{\text{Average Credit Sales Per day}} \times 365 \end{aligned}$$



Debtors' velocity or Average collection period can be calculated in months and weeks as well. In such case, the formula of calculating debtors' velocity will be:

$$\text{Debtors Velocity} = \frac{365 \text{ days} / 52 \text{ weeks} / 12 \text{ months}}{\text{Debtor Turnover Ratio}}$$

Interpretation

Lesser the duration shows greater effectiveness in collecting the dues, which means that the collection department takes only a minimum collection period and vice versa.



Sundaram & Co. Sells goods on a cash as well as credit basis. The following particulars are extracted from the books of accounts for the calendar 2020:

Particulars	₹
Total Gross sales	2,00,000
Cash Sales (included in above)	40,000
Sales Returns	14,000
Total Debtors	18,000
Bills Receivable	4,000
Provision for Doubtful Debts	2,000
Total Creditors	20,000

Calculate the average collection period.

Solution: To find out the average collection period, the first debtors turnover ratio has to compute:

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Bills Receivable} + \text{Debtors}}$$

$$\begin{aligned} \text{Net Credit Sales} &= \text{Gross Sales} - \text{Cash Sales} - \text{Sales Return} \\ &= 2,00,000 - 40,000 - 14,000 = 1,46,000 \end{aligned}$$

$$\text{Debtor Turnover Ratio} = \frac{1,46,000}{4,000 + 18,000} = 6.64 \text{ times}$$

$$\text{Debtors Velocity} = \frac{365 \text{ days}}{\text{Debtors Turnover Ratio}} = \frac{365 \text{ days}}{6.64 \text{ times}} = 55 \text{ days}$$



Calculate Debtors Turnover Ratio and Average Collection Period (in days) from the following.

Total Sales – ₹ 6,00,000

Cash Sales – 20% of Total sales

Trades Receivable at the beginning of the year- ₹ 80,000

Trades Receivable at the end of the year- ₹ 1,60,000

Creditors or Payable Turnover Ratio

It is a short-term liquidity measure used to quantify the rate at which a company pays off its suppliers and depicts how many times a company pays off its. It also shows the firm's effectiveness in making use of the credit period allowed by the creditors during the moment of credit purchase.

$$\text{Creditors Turnover Ratio} = \frac{\text{Net Credit Purchases}}{\text{Average Accounts Payables}}$$



Net Credit Purchase = Total Sales – Cash purchases

Trade Creditor/ Payables = (Sundry Creditors + Bills Payable)

Average Trade Creditor = $\frac{(\text{Opening Trade Creditor} + \text{Closing Trade Creditor})}{2}$

Interpretation

The lesser the ratio is, the better the position of the firm in liquidity management. A lower ratio means enjoying more credit period from the creditors and vice versa.

Creditors / Payables Payment Period or Creditors Velocity

It estimates the average time it takes a business to settle its debts with trade suppliers. The ratio is a helpful indicator when it comes to assessing the liquidity position of a company.

A high payment period indicates organizations make payments slowly.

Average Payment Period

$$\text{a) } \frac{365}{\text{Creditors Turnover Ratio}}$$

$$\text{b) } \frac{\text{Average Accounts Payable}}{\text{Average Credit Purchases Per day}} \times 365$$

Caution



Creditors' velocity or Average payment period can be calculated in months and weeks as well. In such case, the formula of calculating creditors velocity will be:

$$\text{Creditors Velocity} = \frac{365 \text{ days} / 52 \text{ weeks} / 12 \text{ months}}{\text{Creditors Turnover Ratio}}$$

Interpretation

The greater the duration, the better the firm's liquidity management is in availing the creditors' credit period and vice versa.



Metro trading company makes most of its purchases on credit. The extracted data for the year 2012 is given below:

Total purchases: ₹ 570,000

Cash purchases: ₹ 150,000

Accounts payable at the start of the year: ₹ 65,000

Accounts payable at the end of the year: ₹ 40,000

Notes payable at the beginning of the year: ₹ 20,000

Notes payable at the end of the year: ₹ 15,000

Required: Calculate the average payment period from the above data assuming 360 days in a year.

3.6 Profitability Ratios

Profitability ratios are used to evaluate the company's ability to generate income/earnings relative to its revenue, operating costs, balance sheet assets, or shareholders' equity over time, using data from a specific point in time.

Types of Profitability Ratio

These ratios are a measurement of the profitability of the firms in various angles, viz:

1. On sales
2. On investments
3. On capital employed and so on

While discussing the measure of the profitability of the firm, the profits are normally classified into various categories:

1. Gross Profit
2. Net Profit
3. Operating Profit Ratio
4. Return on Assets Ratio
5. Return on Capital Employed



All profitability ratios are typically expressed only in terms of (%). The return is usually expressed only in terms of percentage, which warrants this ratio's expression to be also in percentage.

1. Gross Profit Ratio

The ratio elucidates the relationship between gross profit and sales volume. It facilitates the study of the firm's profit-earning capacity out of the manufacturing or trading operations.

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

Interpretation

A high Gross Profit ratio indicates low production & high sales cost, whereas a low Gross Profit ratio indicates the high cost of production & low selling price.



Om enterprises has earned a gross profit of ₹ 6,00,000 in the first quarter. Calculate the gross profit ratio if the corresponding sales amounted to a value of ₹ 30,00,000. What does it imply?

Solution:

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100 = \frac{6,00,000}{30,00,000} \times 100 = 20 : 1$$

The ratio implies that the firm has earned good profits out of sales in the first quarter.

2. Operating Ratio

The operating ratio measures the relationship between operating cost & net sales.

$$\text{Operating Ratio} = \frac{\text{Cost of goods sold} + \text{Operating Expenses}}{\text{Net Sales}} \times 100$$

Interpretation

The lower the ratio, the more favourable and better the firm's position is, highlighting the percentage of absorption, cost of goods sold and operating expenses out of sales and vice versa. The lower ratio leads to a higher margin of operating profit.



The cost of goods sold by Mangamal operators is ₹ 2,000. What will be the firm's operating ratio if the operating expenses are 50,000 and net sales is that of ₹ 5,00,000? What does it mean?

Solution:

$$\text{Operating Ratio} = \frac{\text{Cost of goods sold} + \text{Operating expenses}}{\text{Net sales}} \times 100 = \frac{2,000 + 50,000}{5,00,000} = 1 : 2$$

Since the ratio is relatively low, the firm is in quite a favourable position and thus has a high margin of operating profit.

3. Operating Profit Ratio

The operating profit ratio measures the relationship between operating profit & net sales.

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

Interpretation

The higher the ratio, the better it is for the firm. A higher operating profit ratio suggests a high operating margin used to pay other non-operating expenses, finance cost, and taxes.

4. Net profit Ratio

The ratio expresses the relationship between the net profit and sales volume. It facilitates the portrayal of the overall operating efficiency of the firm. The net profit ratio is an indicator of the firm's overall earning capacity in terms of return out of sales volume.

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} \times 100$$



Total Revenues = Revenue from operations + Other Income

Total expenses = Cost of goods sold + Office expenses + Administrative expenses + Selling expenses + Distribution expenses + Interest on loans + Tax

Net profit = Total revenues - Total expenses

Interpretation

The higher the ratio, the better the firm's position is, which means that the firm earns greater profits out of the sales and vice-versa.

5. Expense Ratio

The expense ratio shows the relationship of various expenses to net sales. It indicates the proportion of each expense consumed in sales of ₹ 100. The lower the ratio, the better it is.

$$\text{Expense Ratio} = \frac{\text{Particular Expense}}{\text{Net Sales}} \times 100$$



From the following information, calculate:

Gross Profit Ratio

Operating Ratio

Operating profit Ratio

Net profit ratio

Opening stock = ₹ 2600

Purchases = ₹ 8000

Wages = ₹ 2400

Manufacturing expenses = ₹ 1600

Sales = ₹ 16000

Closing stock = ₹ 3800

Selling expenses = ₹ 400

General expenses = ₹ 2400

Loss of furniture due to fire = ₹ 80

The compensation received for land acquisition = ₹ 480

6. Return on Investment (ROI)

ROI indicates the return that investors could receive on their investment in a company. This ratio indicates the 'overall efficiency' of the firm.

$$\text{ROI} = \frac{\text{Net profit (before interest and tax)}}{\text{Total funds}} \times 100$$



Total funds = Equity share capital+ Reserves and surplus - fictitious assets (or accumulated losses) + Preference Share Capital+ Debt Funds

Interpretation

The higher the ratio, the better it is.

7. Return on Equity capital (ROEC)/Shareholder Funds

This ratio is also known as 'Return on Net Worth'. The profitability & performance of the company is judged using this ratio. Equity shareholders use this ratio to take their investment decisions.

$$\text{ROEC} = \frac{\text{Net profit after tax} - \text{Preference dividend}}{\text{Shareholder Funds}} \times 100$$



Shareholder Funds = Equity share capital + Reserves and Surplus – Accumulated losses

Interpretation

- High ROEC will satisfy the shareholders (or owners).
- Low ROEC indicates the low profitability of the company.



From the following information (in ₹), calculate

Return on Investment and,

Return on Shareholder Funds

Equity share capital = ₹ 400,000

Preference share capital = ₹ 100,000

10% debenture = ₹ 400,000

General reserve = ₹ 184,000

Net profit after interest and after tax = ₹ 150,000

Tax amount = ₹ 50,000

8. Earnings Per Share (EPS)

It measures the net income (in rupees) earned by each share

$$\text{EPS} = \frac{\text{Net profit after tax} - \text{Preference dividend}}{\text{Number of equity shares outstanding}}$$

Interpretation

The higher the ratio, the better it is, as it means

- The company is more profitable and
- The company has more profits to distribute to its shareholders.
- The company has a strong financial position.
- It is a reliable company to invest money.

9. Dividend per Share

It shows the amount of profit which is distributed to shareholders per share

$$\text{Dividend per share} = \frac{\text{Dividend paid}}{\text{Number of shares}}$$

10. Price-Earnings ratio (P/E ratio)

It shows the relationship between the stock price and the earnings of the company. It indicates how much an investor is willing to pay to buy one share based on its' earnings.

$$\text{Price Earnings ratio (P/E ratio)} = \frac{\text{Market price per share}}{\text{Earnings per share}}$$

Interpretation

A high P/E ratio indicates that the company's share is sold in the stock market at a high price, and the investors have high expectations. At the same time, it indicates the low profits of the company as the EPS (denominator) is less.

11. Dividend Yield Ratio

The dividend yield, expressed as a percentage, is a financial ratio (dividend/price) that shows how much a company pays out in dividends each year relative to its stock price.

$$\text{Dividend Yield Ratio} = \frac{\text{Annual Dividend}}{\text{Market Price per share}}$$

Interpretation

Mature companies are more likely to pay dividends.

Companies in the utility and consumer staple industries often have higher dividend yields. Investors need to keep in mind that higher dividend yields do not always indicate attractive investment opportunities because the dividend yield of a stock may be elevated due to a declining stock price.



From the following information calculate

(i) Earning per Share

(ii) Price-earnings ratio

70,000 equity shares of ₹ 10 each = ₹ 700,000

Net Profit after tax = ₹ 1,75,000

The market price of a share = ₹ 13

3.7 Solvency Ratios or Leverage ratios

The capital structure ratios are classified into two categories:

1. Leverage Ratios or Solvency ratios: Long-term solvency position of the firm – Principal repayment.

2. Coverage Ratios: Fixed commitment charge solvency of the firm – Dividend coverage and Interest coverage.

Solvency Ratios

Solvency ratios are calculated to determine the ability of the business to pay its debt in the long run.

Need for Solvency Ratios

The persons who have given money to the business on a long-term basis are interested in the safety of their periodic payment of interest, as well as the repayment of the principal amount at the end of the loan period. Thus, solvency ratios assist the lender to assess the capacity of the company to pay back the principal amount.

Types of Solvency Ratios

Let's discuss some important solvency ratios as follows:

1. Debt Equity Ratio

The debt-to-equity ratio compares a company's total debt to total equity. A higher debt to equity ratio indicates that more debt financing (long term loans) is used than investor financing (shareholders).

The debt to equity ratio (also termed as debt-equity ratio) is a long-term solvency ratio that indicates the soundness of the long-term financial policies of a company. It shows the relation between the portion of assets financed by creditors and the portion of assets financed by stockholders. As the debt-to-equity ratio expresses the relationship between external equity (liabilities) and internal equity (stockholder's equity), it is also known as the "external-internal equity ratio". The debt-equity ratio can be understood into two different forms:

1. Long-term debt-equity ratio
2. Total debt-equity ratio

Let us understand each of them one by one.

Long-term Debt-equity Ratio

It is a ratio expressing the relationship between the outsiders' contribution through debt financial resource and shareholders' contribution through equity share capital, preference share capital and past accumulated profits. It reveals the cover or cushion enjoyed by the firm due to the owners' contribution over the outsiders' contribution.

$$\text{Debt-equity Ratio} = \frac{\text{Debt (Long-term Debt = Debentures/Term Loans)}}{\text{Net Worth/Equity (Shareholders' Fund)}}$$



Total Equity/Net-worth = Equity share capital + Preference shares Capital+ All Reserve & Surplus – Fictitious Assets

Interpretation

A higher ratio indicates the riskier financial status of the firm which means that the firm has been Notes financed by the greater outsiders' fund rather than that of the owners' fund contribution and vice-versa.

Total Debt-equity Ratio

The ultimate purpose of the ratio is to express the relationship total volume of debt irrespective of nature and shareholders' funds. If the owners' contribution is lesser in volume in general irrespective of its nature leads to a worse situation in recovering the amount of outsiders' contribution during the moment of liquidation.

$$\text{Total Debt-equity Ratio} = \frac{\text{Short-term Debt} + \text{Long-term Debt}}{\text{Equity (Shareholders' Fund)}}$$



The long-term debt of company Lakme Ltd. is 3 crores and the net worth of the company is 5 crores. If the company has short-term debt of 1 crore, what is the total debt-equity ratio of Lakme Ltd.?

Solution:

$$\text{Total Debt-equity Ratio} = \frac{\text{Short-term Debt} + \text{Long-term Debt}}{\text{Equity(Shareholders' Fund)}} = \frac{1+3}{5} = 4:5$$



Assume a company has ₹ 100000 bank lines of credit and a ₹ 500000 mortgage on its property. The shareholders of the company have invested ₹ 1.2 million. Calculate Debt Equity Ratio.

2. Proprietary Ratio

The ratio illustrates the relationship between the owners' contribution and the total volume of assets. In simple words, how much funds are contributed by the owners in financing the assets of the firm? Greater the ratio means that greater contribution made by the owners' in financing the assets.

$$\text{Proprietary ratio} = \frac{\text{Proprietors' Funds or Shareholders' Funds}}{\text{Total Assets}}$$

Interpretation

A higher ratio is a better position for the firm as well as safety to the creditors.



Arvind Company has shareholders' equity of ₹ 2,000,000 and total assets of ₹ 5,000,000. There is no goodwill on its Balance sheet, nor any intangible assets. Its proprietary ratio will be?

3. Debt Ratio

This ratio measures the long-term debt of a firm in comparison to its total assets.

$$\text{Debt ratio} = \frac{\text{Total Debts}}{\text{Total Assets}}$$

Total Debt = Long term Loan + Debentures

Interpretation

A high debt ratio tells you that a company has more debt than assets and indicates financial leverage. A low debt ratio indicates a financially stable business.

Debt ratios vary widely across industries, with capital-intensive businesses such as utilities and pipelines having much higher debt ratios than other industries such as the technology or service sector



From the balance sheet given below calculate the proprietary ratio

Balance Sheet			
Liabilities	₹	Assets	₹
Equity share capital	3,00,000	Fixed assets	2,00,000
Reserves & surplus	50,000	Current assets	1,00,000
Debentures	1,00,000	Good will	50,000
Creditors	50,000	Investment	1,50,000
	5,00,000		5,00,000

Coverage Ratios

These ratios are computed to know the solvency of the firm in making the periodical payment of interest and preference dividends. The interest and preference dividends are to be paid irrespective of the earnings available in the hands of the firm. In other words, these are known as fixed commitment charge of the firm.

1. Interest coverage ratio

The firms are expected to make the payment of interest on the borrowings without fail. This ratio facilitates the prospective lender to study the strength of the enterprise in making the payment of interest regularly out of the total income. To study the capacity in making the payment of interest is known as interest coverage ratio or debt service coverage ratio.

$$\text{Interest coverage ratio} = \frac{\text{Net profit before interest and tax}}{\text{Fixed interest charges}}$$

Interpretation

Higher the ratio, more safety available to creditors.



Mr Ashmit Ahuja had an earning of ₹ 3,00,000 before he paid the interests and taxes. What will be the interest coverage ratio if he pays ₹30,000 as an interest? What will it mean?

Solution:

$$\text{Interest Coverage Ratio} = \frac{\text{Earnings before Interest and Taxes}}{\text{Interest}} = \frac{3,00,000}{30,000} = 10 : 1$$

□ Since the interest coverage ratio is substantially high, it means that Mr Ahuja has quite a good capacity in making the payment of interest and has high safety.

2. Dividend Coverage Ratio

It illustrates the firms' ability in making the payment of preference dividend out of the earnings available in the hands of the firm after the payment of taxation. The greater the size of the profits after taxation, the greater is the cushion for the payment of preference dividend and vice-versa.

The preference dividends are to be paid without fail irrespective of the profits available in the hands of the firm after the taxation.



Hindustan Manufacturers have to make a preference dividend of ₹ 60,000. The earnings after taxation are ₹ 3,00,000. What will be the Dividend coverage ratio? What does it mean?

Solution:

$$\text{Dividend Coverage Ratio} = \frac{\text{Earnings After Taxation}}{\text{Preference Dividend}} = \frac{3,00,000}{60,000} = 5:1$$

Since the value of the dividend coverage ratio is quite high, the company has a strong cushion for the payment of preference dividend.

3.8 Du-Pont Analysis

DuPont Analysis is an extended examination of the Return on Equity (ROE) of a company that analyses Net Profit Margin, Asset Turnover, and Financial Leverage. This analysis was developed by the DuPont Corporation in the year 1920.

In simple words, it breaks down the ROE to analyze how corporate can increase the return for their shareholders. It establishes a framework for a more in-depth analysis of a company's areas of strength and weakness.

The company can increase its Return on Equity if it-

1. Generates a high Net Profit Margin.
2. Effectively uses its assets to generate more sales
3. Has a high Financial Leverage

DuPont: ROE can be decomposed into three components:

1		2		3
Profitability	X	Efficiency	X	Leverage
Return on Sales	X	Asset Turnover	X	Assets-to-Equity Ratio
$\frac{\text{Net Income}}{\text{Sales}}$	X	$\frac{\text{Sales}}{\text{Assets}}$	X	$\frac{\text{Assets}}{\text{Equity}}$

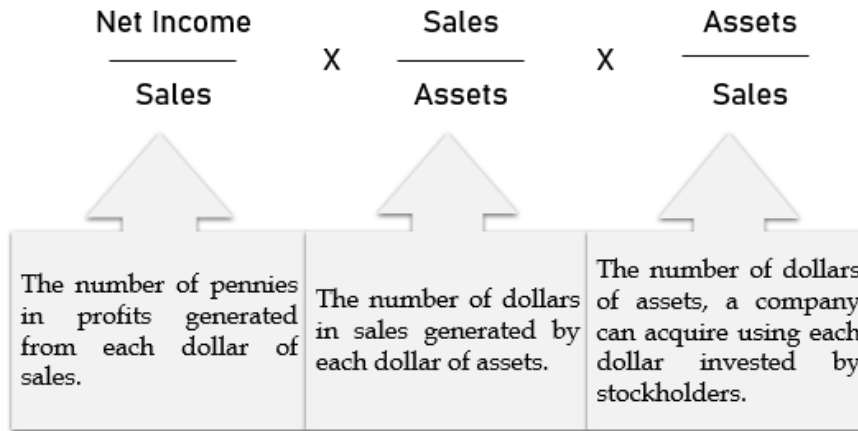
Sources: Author

This analysis has 3 components to consider:

1. **Profitability or Profit margin:** This is a very basic profitability ratio. This is calculated by dividing the net profit by total revenues.
2. **Efficiency or Total Asset turnover:** This ratio depicts the efficiency of the company in using its assets. This is calculated by dividing revenues by average assets. This ratio differs across industries but is useful in comparing firms in the same industry. If the company's asset turnover increases, this positively impacts the ROE of the company.
3. **Leverage:** This refers to the debt used to finance the assets. The companies should strike a balance in the usage of debt. The debt should be used to finance the operations and growth

of the company. However, usage of excess leverage to push up the ROE can turn out to be detrimental to the health of the company.

DuPont Framework



Source: Author

Dupont Analysis Interpretation

It gives a broader view of the Return on Equity of the company. It highlights the company's strengths and pinpoints the area where there is a scope for improvement. Say if the shareholders are dissatisfied with the lower ROE, the company with the help of the DuPont Analysis formula can assess whether the lower ROE is due to low-profit margin, low asset turnover or poor leverage. Once the management of the company has found the weak area, it may take steps to correct it.



The DuPont equation can be further decomposed to have an even deeper insight where the net profit margin is broken down into EBIT Margin, Tax Burden, and Interest Burden.

Return on Equity = EBIT Margin x Interest Burden x Tax Burden x Asset Turnover Ratio x Financial Leverage

ROE = (EBIT / Sales) x (EBT / EBIT) x (Net Income / EBT) x (Sales / Total Assets) x (Total Assets / Total Equity)



Case Study Evaluation of Hindustan Unilever Limited

With over 85 years of heritage in India, HUL is India's largest fast-moving consumer goods company. On any given day, nine out of ten Indian households use our products, giving HUL a unique opportunity to build a brighter future. HUL is known for its great brands, the positive social impact it creates and its belief in doing business the right way.

The following is the data of key financial ratios of HUL from March 2016 to March 2020.

Key Financial Ratios	20-Mar	19-Mar	18-Mar	17-Mar	16-Mar
Earnings per share	31.13	27.89	24.2	20.75	19.12
Dividend per share (₹)	34.5	22	20	17	16
Net profit ratio (%)	17.37	15.79	15.16	14.07	13.31
Return on Net worth (%)	83.89	78.8	74.02	69.18	65.88
Return on Assets (%)	34.37	33.78	30.53	30.43	29.71
Total Debt to Equity ratio	0	0	0	0	0
Asset Turnover ratio (%)	197.86	213.96	201.32	216.18	223.13
Current Ratio	1.31	1.36	1.29	1.3	1.43
Quick Ratio	1.02	1.07	1.02	0.97	1.05

Inventory Turnover Ratio	14.71	15.78	14.64	13.5	12.29
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Source: <https://www.moneycontrol.com/financials/hindustanunilever/ratiosVI/HU>

Required:

- Comment on the HUL's liquidity position.
- Assess and comment on HUL's profitability position.
- Review and comment on HUL's solvency position.
- Comment on HUL's efficiency to manage its assets.
- Comment on HUL's leverage position.

Summary

- Ratio analysis is one of the important tools of financial statement analysis to study the financial structure of the business fleeces.
- Financial ratio analysis is the calculation and comparison of ratios that are derived from the information in a company's financial statements.
- The level and historical trends of these ratios can be used to make inferences about a company's financial condition, its operations and attractiveness as an investment.
- Financial ratios are calculated from one or more pieces of information from a company's financial statements.
- A ratio gains utility by comparison to other data and standards.
- Ratios are classified as liquidity, leverage, profitability, activity, integrated and growth ratio.
- Although financial ratio analysis is well-developed and the actual ratios are well-known, practicing financial analysts often develop their measures for particular industries and even individual companies.
- Analysts often differ drastically in their conclusions from the same ratio analysis.

Keywords

Balance Sheet or Positional Statement Ratios: These types of ratios are calculated from the balance sheet of the enterprise which normally reveals the financial status of the position i.e. short-term, long-term financial position, the share of the owners on the total assets of the enterprise and so on.

Capital Structure Ratios: The capital structure position is analyzed through leverage ratios as well as coverage ratios.

Current Assets: Current assets are in the form of cash, equivalent to cash or easily convertible into cash.

Current Liabilities: Current liabilities are short-term financial resources or payable in a short period within a year.

Income Statement Ratios: These ratios are computed from the statements of the Trading, Profit & Loss Account of the enterprise.

Self-Assessment

Multiple Choice Questions

1. Ratio is an expression of:

- Quotient
- Time
- Percentage
- Fraction
- All of these

2. Accounting ratios are to study:

-
- (a) Accounting relationship among the variables
 - (b) The relationship between the variables of financial statements
 - (c) The relationship between the variables of financial statements for analysis and interpretations
 - (d) None of the above.
3. Accounting ratios are of:
- (a) Income statement ratios
 - (b) Positional statement ratios
 - (c) Both (a) & (b)
 - (d) None of the above
4. Solvency position of the firm studied and interpreted through:
- (a) Short-term solvency ratios
 - (b) Long-term solvency ratios
 - (c) Coverage ratios
 - (d) (a), (b) & (c)
5. Efficiency and effectiveness of the firm to utilize its resources to generate income is studied through:
- (a) Liquidity ratios
 - (b) Leverage ratios
 - (c) Profitability ratios
 - (d) Efficiency ratios
6. Profitability ratios to study the potential to earn profits:
- (a) On Assets
 - (b) On capital employed
 - (c) On Sales
 - (d) (a), (b) & (c)
7. Standard norm of the current ratio is:
- (a) 2:1
 - (b) 1:5
 - (c) 1:2
 - (d) 3:1
8. Absolute Liquid assets do not include:
- (a) Closing stock
 - (b) Prepaid expenses
 - (c) Sundry debtors
 - (d) Both (a) & (b)
9. The term accounting is used to describe relationships significantly which exist in between figures shown in a:
- (a) Balance sheet
 - (b) Profit & Loss A/c
 - (c) Trading A/c
 - (d) All of these

10. Which of the following is not a purpose of the Ratio Analysis?
- To study the liquidity of the firm
 - To study the leverage position of the firm
 - To interpret the profit earning capacity of the firm
 - To identify the turnover of the firm
11. Ratio analysis is an outcome of the analysis of historical transactions known as:
- Premortem Analysis
 - Postmortem Analysis
 - Antimortem Analysis
 - Mortem Analysis
12. Which of the following is not a ratio account based on Financial Statements?
- Income Statement Ratios
 - Positional Statement Ratios
 - Composite Mixture of Ratios
 - None of these
13. Which of the following is not a short-term solvency ratio?
- Current Assets Ratio
 - Defensive Interval Ratio
 - Super Quick Assets Ratio
 - None of these

Fill in the Blanks

14. The net profit ratio is an indicator of overall of the firm in terms of return out of sales volume.
15. The operating ratio is establishing the relationship between the and operating expenses with the total sales volume.

Review Questions

1. Is the firm satisfies the standard norm of the current asset ratio and liquid assets ratio?

M/s Shanmuga & Co
Balance sheet as on dated 31st March, 2010

Liabilities	₹	Assets	₹
Share capital	42,000	Fixed Assets Net	34,000
Reserve	3,000	Stock	12,400
Annual Profit	5,000	Debtors	6,400
Bank overdraft	4,000	Cash	13,200
Sundry creditors	12,000		
	66,000		66,000

2. Liquid Assets 65,000; Stock ₹ 20,000; Pre-paid expenses ₹ 5,000; Working capital ₹ 60,000. Calculate current assets ratio and liquid assets ratio.
3. The current ratio of Bicon Ltd. is 4.5:1 and the liquidity ratio is 3:1 stock is ₹ 6,00,000. Find out the current liabilities
- 4.

Debtors velocity	3 months
Creditors velocity	2 months
Stock velocity	8 times
Capital turnover ratio	2.5 times
Fixed assets turnover ratio	8 times
Gross profit turnover ratio	25%

Gross profit in a year amounts to ₹ 1,60,000. There is no long term loan or overdraft. Reserves and surplus amount to ₹ 56,000. Liquid assets are ₹ 1,94,666. Closing stock of the year is ₹ 4,000 more than the opening stock Bill receivable amount to ₹ 10,000 and bills payable to ₹ 4,000. Find out:

- (i) Sales
- (ii) Closing stock
- (iii) Sundry debtors
- (iv) Fixed assets
- (v) Sundry creditors
- (vi) Proprietors' fund.

5. You have been hired as an analyst for Mellon Bank and your team is working on an independent assessment of Daffy Duck Food In(c) (DDF In(c)) DDF In(c) is a firm that specializes in the production of freshly imported farm products from France. Your assistant has provided you with the following data for Flipper Inc. and their industry.

Ratio	2010	2009	2008	2010-Industry Average
Long-term debt	0.45	0.40	0.35	0.35
Inventory Turnover	62.65	42.42	32.25	53.25
Depreciation/Total Assets	0.25	0.014	0.018	0.015
Days' sales in receivables	113	98	94	130.25
Debt to Equity	0.75	0.85	0.90	0.88
Profit Margin	0.082	0.07	0.06	0.075
Total Asset Turnover	0.54	0.65	0.70	0.40
Quick Ratio	1.028	1.03	1.029	1.031
Current Ratio	1.33	1.21	1.15	1.25
Times Interest Earned	0.9	4.375	4.45	4.65
Equity Multiplier	1.75	1.85	1.90	1.88

In the annual report to the shareholders, the CEO of Flipper Inc wrote, "2008 was a good year for the firm concerning our ability to meet our short-term obligations. We had higher liquidity largely due to an increase in highly liquid current assets (cash, account receivables and short-term marketable securities)." Is the CEO correct? Explain and use only relevant information in your analysis.

6. In the above question, what will you say when you are asked to provide the shareholders with an assessment of the firm's solvency and leverage. Be as complete as possible given the above information, but do not use any irrelevant information.

7. Firm A has a Return on Equity (ROE) equal to 24%, while firm B has an ROE of 15% during the same year. Both firms have a total debt ratio (D/V) equal to 0.8. Firm A has an asset turnover ratio of 0.9, while firm B has an asset turnover ratio equal to 0.4. What can we analyze about the relationship between both the firms?

8. State the different profitability ratios.

9. What is Dupont analysis? How is it useful for analyzing a company's performance?

10. The data summarized in the table below show the performance of two firms A and B, over five years.

	Firm	Years				
		1	2	3	4	5
Gross profit margin %	A	42	37	35	37	35
	B	30	32	32	33	34
Net profit margin %	A	16	13	12	12	10
	B	10	11	11	12	12
Return on capital employed %	A	14	13	12	12	11
	B	9	10	10	11	11
Acid Test Ratio	A	2.7	2.6	2.5	2.5	2.4
	B	1.7	1.8	1.5	0.8	1.0

Using the information in the table explain the comparative attractiveness of the two firms to a potential investor.

Answers: Self-Assessment

1. e 2. c 3. c 4. d 5. d
 6. c 7. a 8. d 9. d 10. d
 11. b 12. d 13. d 14. earning capacity 15. cost of goods sold

Further Readings



1. Management Accounting by Khan M.Y And Jain P.K, Mcgraw Hill Education
2. Financial Accounting for Management by Shah Paresh, Oxford University Press
3. A Textbook of Accounting for Management by Maheshwari. S.N, Maheshwari Sharad. K, Maheshwari Suneel. K, Vikas Publishing House
4. Financial Accounting for Management: An Analytical Perspective by Gupta Ambrish, Pearson Education India
5. Financial Accounting by Goyal V.K, Excel Books, New Delhi
6. Accounting & Finance for Managers by Pandikumar M.P, Excel Books, New Delhi.



1. <https://www.elearnmarkets.com/blog/dupont-analysis/>
2. <https://corporatefinanceinstitute.com/resources/knowledge/finance/ratio-analysis/>

Unit 04: Financial Statement Analysis

CONTENTS

Objectives

Introduction

4.1 Objectives of Analysis

4.2 Various Stakeholders and their Interests

4.3 Techniques of Financial Statement Analysis

Summary

Keywords

Self-Assessment/Evaluation

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Objectives

After studying this unit, you will be able to:

- illustrate the meaning and purpose of performing Financial Statement analysis by various stakeholders.
- explain the tools of Financial Statement Analysis.
- measure the financial position and performance of any company through comparative statement analysis.
- review the financial position and performance of any company through trend analysis.
- assess the financial position and performance of any company through common size financial statement analysis.

Introduction

Financial statement analysis is the process of reviewing and investigating a company's financial statements by establishing relationships among various components of Financial statements to make better economic decisions. It includes both 'Analysis', and 'Interpretation'.



Did you Know? What is meant by "analysis"?

It is a simplification of financial data by methodical classification of the data given in the financial statements.

What is meant by "Interpretation"?

It means, 'explaining the meaning and significance of the data so simplified.' It refers to drawing inferences from the performed financial statement analysis and understanding what does it indicate.



Example

In 2020, If the Tea bag company is selling 1 kg tea for Rs. 100 and incurring the cost of Rs. 80 per kg to manufacture same, how much is the profit margin that the company earn per unit sold?

In 2021, if the inputs costs of manufacturing 1 kg of tea increase to Rs. 85, will the company be able to earn the same profit margin per unit sold as of 2020?

Analysts can obtain useful information by comparing a company's most recent financial statements with its results in previous years and with the results of other companies in the same industry through performing financial statement analysis.

4.1 Objectives of Analysis

The purpose of analysis depends upon the person interested in such analysis and his or her object.

Primary objectives of Financial Statement Analysis

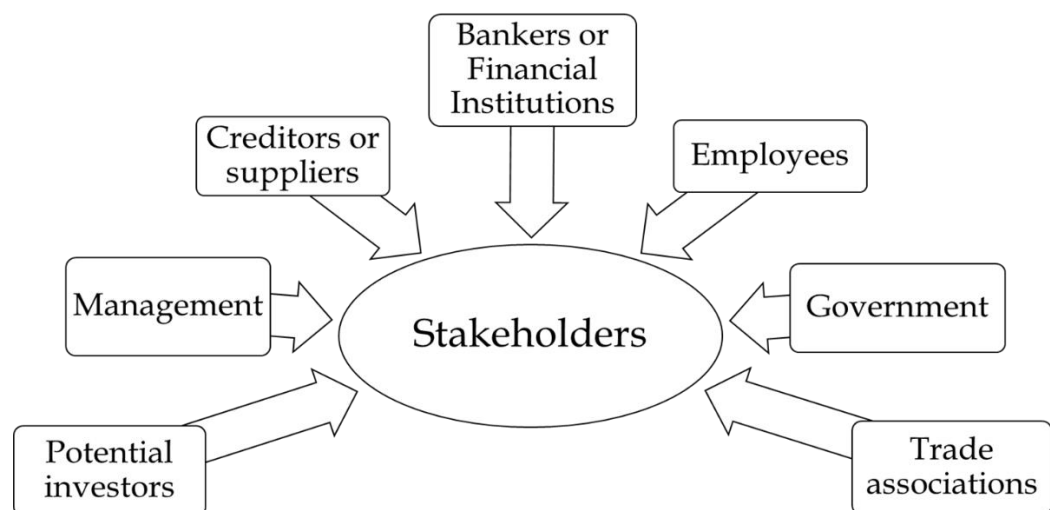
To understand and diagnose the information contained in the financial statement to judge the profitability and financial soundness of the firm, and to make a forecast about prospects of the firm relative to the firm's past performance & soundness and competitor's or industry's performance and soundness.

Secondary objectives of Financial Statement Analysis

- To assess the earning capacity or profitability of the firm.
- To assess operational efficiency and managerial effectiveness.
- To assess the short term as well as long term solvency position of the firm.
- To identify the reasons for the change in profitability and financial position of the firm.
- To make the inter-firm comparison.
- To assess the progress of the firm over a period.
- To help in decision making and control.
- To guide or determine the dividend action.
- To provide important information for granting credit.

4.2 Various Stakeholders and their Interests

The following are the stakeholders that have interest in performing financial statement analysis.



Source: Author



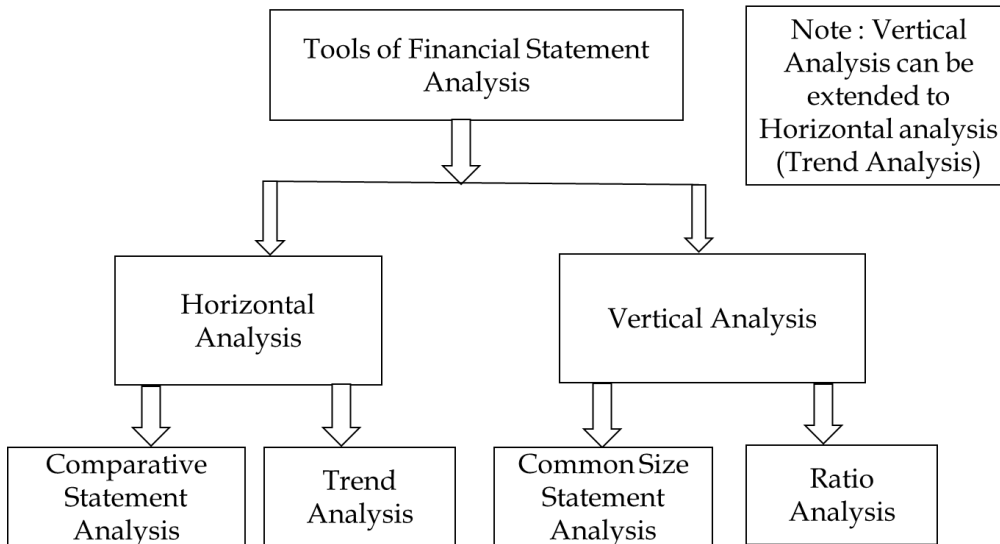
Notes

Financial statement analysis is a valuable tool used by investors and creditors, financial analysts, and others in their decision-making processes related to stocks, bonds, and other financial instruments. The goal in analyzing financial statements is to assess past performance and current financial position and to make predictions about the future performance of a company. Investors who buy stock are primarily interested in a company's profitability and their prospects for earning a return on their investment by receiving dividends and/or increasing the market value of their stock holdings.

Creditors and investors who buy debt securities, such as bonds, are more interested in liquidity and solvency: the company's short and long-run ability to pay its debts. Financial analysts, who frequently specialize in following certain industries, routinely assess the profitability, liquidity, and solvency of companies to make recommendations about the purchase or sale of securities, such as stocks and bonds.

4.3 Techniques of Financial Statement Analysis

The following figure is depicting the bifurcation of tools of Financial Statement Analysis.



Source: Author



Notes

Two primary types of financial statement analysis are commonly known as horizontal analysis and vertical analysis based on Modus Operandi.



Cautions

Based on the material used, financial analysis can be of two types i.e., External analysis, and Internal analysis.

Based on entities involved, financial analysis can be of two types i.e., Cross-sectional or inter-firm analysis, and Time-series or intra-firm analysis.

Based on the time involved, financial analysis can be of two types i.e., Short-term analysis, and Long-term analysis.

Horizontal Analysis

When an analyst compares financial information of certain accounting period with information of other accounting periods for a single company, the process is referred to as horizontal analysis. Analysts make use of such an approach to find and analyze historical trends in a company's performance and position. It also helps assess a companies' financial growth and position versus competitors. It is also known as "Dynamic Analysis" as it is based on year-to-year data rather than on any one-year data. There are two primary methods of horizontal financial statement analysis namely comparative statement analysis and trend analysis.

Comparative Statement Analysis

Comparative statement analysis involves comparing a company's financial condition and performance of a particular accounting period with the prior period or any other selected period. Thus, it involves the analysis of financial statements across time.

Steps to perform Comparative Statement Analysis:

Step 1: Calculating Change in INR/Rupee Amounts

$$\text{Rupee Change (₹)} = \text{Current Year Figure} - \text{Base Year Figure}$$



Notes

If we measure the amount of the change between 2019 and 2020, the Rupee amounts for 2019 become the “base” year figures. Thus, the previous year will become the base year.

Step 2: Calculating Change as a Percentage

$$\text{Percentage Change} = \frac{\text{Rupee Change}}{\text{Base Year Figure}} \times 100$$



Task

From the following Balance sheet of Samiksha enterprise, you are required to prepare Comparative Balance Sheet and Interpret its Liquidity and Solvency Position.

Liabilities	2020 (₹)	2019 (₹)	Assets	2020 (₹)	2019 (₹)
Share Capital	250,000	250,000	Furniture	10,000	8,000
12% Debentures	50,000	80,000	Land & Building	280,000	300,000
Reserves	25,000	70,000	Machinery	1,00,000	95,000
Creditors	40,000	60,000	Debtors	35,000	50,000
Bills payable	20,000	40,000	Stock	70,000	44,000
Outstanding expenses	25,000	15,000	Cash	15,000	18,000
	410,000	515,000		410,000	515,000



Task

From the following Balance sheet of Madhurika enterprise, you are required to prepare Comparative Balance Sheet and Interpret its Liquidity and Solvency Position.

ASSETS	3/31/2020 (in ₹)	3/31/2019 (in ₹)	LIABILITIES	3/31/2020 (in ₹)	3/31/2019 (in ₹)
Land & Building	40,000	60,000	Share Capital	2,50,000	3,50,000
Plant & Machinery	2,50,000	4,00,000	Profit & Loss A/c	50,000	80,000
Stock	50,000	37,500	General Reserve	25,000	35,000
Debtors	70,000	75,000	Creditors	81,500	1,00,000
Prepaid Expenses	7,000	6,000	Bills Payable	15,000	20,000
Cash at Bank	8,000	9,000	Pre-received Rent	3500	2500
TOTAL	4,25,000	5,87,500	TOTAL	4,25,000	5,87,500



Case Study

Evaluation of HUL the financial soundness and performance in 2020 versus 2019 through Comparative Statements Analysis

Let's learn comparative financial statement analysis through Hindustan Unilever Limited (HUL) financial statements and assess the financial soundness and performance of HUL in 2020 versus 2019.

The HUL Balance sheet as of March 31, 2020, and March 31, 2019, has been converted in Comparative Balance Sheet by performing the above discussed two steps to perform comparative statement analysis. 2019 is taken as the base year. In the first step, absolute change in rupee terms is calculated and in the second step, the percentage change is calculated for 2020 figures relative to 2019 figures. After performing these two steps, the following comparative balance sheet of HUL is formed:

HUL: Comparative Balance Sheets (in ₹ Cr.) as on March 31, 2020 and 2019				
			Increase (Decrease)	
	2020	2019	Amount	%
EQUITIES AND LIABILITIES				
SHAREHOLDER'S FUNDS				
Equity Share Capital	216	216	0.00	0.00
Reserves and Surplus	7,815.00	7,443.00	372.00	5.00
Total Shareholders Funds	8,031.00	7,659.00	372.00	4.86
NON-CURRENT LIABILITIES				
Other Long Term Liabilities	1,269.00	804	465.00	57.84
Long Term Provisions	1,198.00	1,049.00	149.00	14.20
Total Non-Current Liabilities	2,467.00	1,853.00	614.00	33.14
CURRENT LIABILITIES				
Trade Payables	7,399.00	7,070.00	329.00	4.65
Other Current Liabilities	1,287.00	782	505.00	64.58
Short Term Provisions	418	501	(83.00)	(16.57)
Total Current Liabilities	9,104.00	8,353.00	751.00	8.99
Total Capital And Liabilities	19,602.00	17,865.00	1737.00	9.72
ASSETS				
NON-CURRENT ASSETS				
PPE	4,625.00	3,907.00	718.00	18.38
Intangible Assets	431	436	(5.00)	(1.15)
Capital Work-In-Progress	513	373	140.00	37.53
Fixed Assets	5,569.00	4,716.00	853.00	18.09
Non-Current Investments	252	256	(4.00)	(1.56)
Deferred Tax Assets [Net]	261	339	(78.00)	(23.01)
Long Term Loans And Advances	453	396	57.00	14.39
Other Non-Current Assets	1,159.00	784	375.00	47.83
Total Non-Current Assets	7,694.00	6,491.00	1203.00	18.53
CURRENT ASSETS				
Current Investments	1,248.00	2,693.00	(1445.00)	(53.66)
Inventories	2,636.00	2,422.00	214.00	8.84
Trade Receivables	1,046.00	1,673.00	(627.00)	(37.48)
Cash And Cash Equivalents	5,017.00	3,688.00	1329.00	36.04
Other Current Assets	1,961.00	898	1063.00	118.37
Total Current Assets	11,908.00	11,374.00	534.00	4.69
Total Assets	19,602.00	17,865.00	1737.00	9.72

Source: Author



Caution: Negative figures are shown in brackets as per accounting norms.

Interpretations

- There is an increase in Reserve and Surplus by 5% that implies ploughing back of profits. It is a sign of the improved operational efficiency of HUL in 2020.
- An increase in Shareholder's funds by 5% implies the owner's contribution in business has been gone up.
- An increase in Non-Current Liabilities (Outsider's funds) by 33% implies an increase in financial risk due to an increase in interest payment obligations, outsiders' claim on business got increased. It may be the case that HUL is on its way to expansion or undertaking strategic changes.
- An increase in Current Liabilities by 9% signifies more credit period taken from creditors. Such an increase may adversely affect the liquidity position of HUL.
- An increase in Fixed assets by 18.09% depicts the increase in production capacity of HUL. Hence, it is inferred that HUL is on its way to expansion.
- A decrease in Non-current Investments by 1.56% implies investments are sold and funds are either invested in business operations or kept idle for future opportunities.
- An increase in Current Assets by 4.69% signifies an improvement in liquidity position.
- An increase in Long term Loans and advances by 14.39% implies HUL has lent more credit in 2020.
- A decrease in Current investments by 53.66% in 2020 relative to 2019 implies the short investments are sold for generating cash.
- An increase in Stock by 8.84% suggests that sales have been decreased and the stock has been piled up in 2020.
- Decrease in Trade receivables by 37.48% exhibits fewer credit sales, strict credit policy, less chance of bad debts in 2020 relative to 2019.
- An increase in Cash and Cash Equivalents by 36.04% implies idle cash that is reaping no return.
- Current Assets in 2020 have been increased by 4.69%, however Current Liabilities in 2020 has been increased by 9%. The percentage increase in Current Liabilities is more than the increase in Current Assets. It may harm HUL's Working capital Management or Liquidity position i.e., the ability of the company to pay its short-term liabilities.
- If individual amounts of Current Assets and Current Liabilities of both years are considered then definitely Current Assets are still above than Current Liabilities that establishes strong Liquidity position of HUL.
- The percentage increase in Non-Current Assets in 2020 relative to 2019 is 18.53% that is far less than the percentage increase in Non-Current Liabilities that is 33%. It may give a negative impact on the Solvency position of HUL.
- However, if Rupee change is considered then Non-Current Assets (₹ 1203 crores) have been increased almost double than the increase in Non-Current Liabilities (₹ 614 crores), hence implying that the Solvency position of HUL is strong enough.
- An ideal Financing policy is "A company should finance all of its Non-Current assets through Non-Current liabilities and all current assets should be financed from current liabilities".

- Non-Current assets should never get financed by raising current liabilities. However, part of current assets can get financed through Non-Current liabilities.

Thus, the afore-said inferences have been obtained about HUL' financial position post performing comparative statement analysis on its balance sheet for 2020.

Now, let's analyze and comment on the financial performance of HUL through performing comparative statement analysis on its statement of profit & loss for the year ending 2020 by taking 2019 as base year as follows:

HUL: Comparative Statement of Profit & Loss for the year ended March 31, 2020 and 2019				
	(in ₹ Cr.)		Increase (Decrease)	
	2020	2019	Amount	%
Revenue From Operations [Net]	38,273	37,660	613.00	1.63
Other Operating Revenues	512	564	(52.00)	(9.22)
Total Operating Revenues	38,785	38,224	561.00	1.47
Other Income	733	664	69.00	10.39
Total Revenue	39,518	38,888	630.00	1.62
EXPENSES				
Cost of Materials Consumed	11,572	13,240	(1668.00)	(12.60)
Purchase of Stock-In Trade	6,342	4,708	1634.00	34.71
Changes In Inventories of FG,WIP And Stock-In Trade	-121	12	(133.00)	(1108.33)
Employee Benefit Expenses	1,691	1,747	(56.00)	(3.21)
Finance Costs	106	28	78.00	278.57
Depreciation and Amortisation Expenses	938	524	414.00	79.01
Other Expenses	9,701	9,880	(179.00)	(1.81)
Total Expenses	30,229	30,139	90.00	0.30
Profit/Loss Before Exceptional, ExtraOrdinary Items And	9,289	8,749	540.00	6.17
Exceptional Items	-197	-227	30.00	(13.22)
Profit/Loss Before Tax	9,092	8,522	570.00	6.69
Total Tax Expenses	2,354	2,486	(132.00)	(5.31)
Profit/Loss For The Period	6,738	6,036	702.00	11.63

Source: Author



Caution: Negative figures are shown in brackets as per accounting norms.

Interpretations

- The revenue has been increased by just 1.63% in 2020 but the Profit After Tax (PAT) has been increased by 11.63% due to efficiently control over expenses as they have been increased by 0.30%.
- Finance Cost has increased by 278.57%, implying a hike in Non-Current Liabilities tremendously.
- Depreciation is increased by 79.01% implying the purchase of more Fixed Assets in 2020. It is a sign of HUL' Expansion.

Overall Interpretations

Now, let's make overall interpretations by considering both comparative balance sheet and statement of profit & loss together:

Fixed Asset Utilization

Increase in Fixed Assets by 18.09% and on another side, Revenue from operations has also increased by 1.63%. It implies Fixed Asset utilization has been improved. As the Fixed Assets have been increased highly comparatively to increase in sales. So, it gives further scope to HUL for taking the best utilization of its investment in Fixed Assets.

Operational Efficiency

The profits in 2020 have got increased by 11.63% and Reserves are also increased by 5%. It implies improvement in the Operational efficiency of HUL in 2020.

Inventory Management

The increase in inventory is 8.84% is much higher than the increase in Sales, implying less efficient Inventory management. The inventory has been piled up.

Creditors/ Trade Payable Management

Purchases of Finished goods have been increased by 34.71%, however, Trade payables have just risen by 5% in 2020 implying HUL has purchased the Finished goods more on cash in 2020. So, it signifies better payable management. Even the Cost of Material consumed has been decreased that signifies a decrease in production comparatively to 2019.

Debtors/Receivable Management

The revenue has been increased by 1.63%, however, the trade receivables have been decreased by 37.48%. It implies that there were more cash sales in 2020 and HUL has recollected their funds from Debtors. It shows better Receivable management. But the rate of decrease in Debtors is too high that is 37.48%, it implies that HUL has followed a strict credit policy in 2020 and it can give an adverse impact on its total sales over a long period.

Leverage – To know the Finance Risk

Long term debt has been increased by 33%, even short-term debt has been risen by 9%. On the other side, the shareholder's funds have been increased by just 5% that is due to an equivalent increase in R&S. It may increase Finance risk for HUL in long run. It will also increase the burden of regular interest payment. However, if individual amounts are considered then Shareholders funds is too high as compared to Non-Current Liabilities thus provides a safe window for lenders to provide credit to HUL.

Source: Author

Trend Analysis

Trend analysis compares key financial statement values or relationships for the same company across periods. It generally includes more than three years of data and supports to build prediction model and forecasts financial statements. It involves the calculation of trend percentages which play a significant role in analyzing the financial stature of the enterprise through base years' performance ratio computation. This not only reveals the trend movement of the financial performance of the enterprise but also highlights the strengths and weaknesses of the enterprise. Financial Elements can show upward, downward and Sideway (Horizontal) trend. This analysis sets the base year at a value of 100% and then shows subsequent years about increases or decreases over the base year.

The formula of Calculating Trend percentages:

$$= \frac{\text{Current Year Figure}}{\text{Base Year Figure}} \times 100$$

Let's perform trend analysis on few key financial elements of HUL for the last five years starting from 2016 as follows:

Trend Analysis of Key elements of HUL ----- in ₹ Cr. -----					
	Mar 20	19-Mar	18-Mar	17-Mar	16-Mar
Revenue From Operations [Gross]	38,273	37,660	34,619	33,895	32,929
Total Operating Revenues	38,785	38,224	34,525	31,890	31,061
Cost of Materials Consumed	11,572	13,240	12,491	11,363	11,267
Purchase of Stock-In Trade	6,342	4,708	3,812	4,166	3,951
Employee Benefit Expenses	1,691	1,747	1,745	1,620	1,573
Finance Costs	106	28	20	22	15
Depreciation And Amortisation Expenses	938	524	478	396	321
Total Expenses	30,229	30,139	27,747	26,261	25,648
Profit/Loss For The Period	6,738	6,036	5,237	4,490	4,137
Trend Percentages					
Revenue From Operations [Gross]	116%	114%	105%	103%	100%
Total Operating Revenues	125%	123%	111%	103%	100%
Cost of Materials Consumed	103%	118%	111%	101%	100%
Purchase of Stock-In Trade	161%	119%	96%	105%	100%
Employee Benefit Expenses	108%	111%	111%	103%	100%
Finance Costs	707%	187%	133%	147%	100%
Depreciation And Amortisation Expenses	292%	163%	149%	123%	100%
Total Expenses	118%	118%	108%	102%	100%
Profit/Loss For The Period	163%	146%	127%	109%	100%

Source: Author

**Task**

Comment upon the financial performance of HUL in 2020 based on the above-given Trend analysis.

Importance of Horizontal Analysis

Horizontal helps the analyst to examine relationships for detecting strengths and weaknesses of a business entity such as faster growth in the cost of sales compared to sales. The purpose of horizontal analysis is primarily to direct attention to the financial elements that require further investigation. It helps to identify trends in various financial elements and forms the basis of forecast the future performance and position of a business entity.

Vertical Analysis

It is a method of financial statement analysis in which each line item is listed as a percentage of a base figure within the statement. The most common use of vertical analysis is within a financial statement for a single reporting period, so that one can see the relative proportions of account balances. It is also known as Static Analysis.

Vertical analysis can become a more potent tool when used in conjunction with horizontal analysis, which considers the finances of a certain period such as on a comparative basis over five years. For example, if the cost of goods sold has a history of being 40% of sales in each of the past four years, then a new percentage of 48% would be a cause for alarm.

**Notes**

To prepare common size statements, the components are translated as a percentage of selected Key component of the financial statement for analysis and interpretations.

For the Common size Statement of profit & loss, Net sales are considered as a base for the computation of common size percentages of each financial element present in the Statement of profit & loss.

For the Common size Balance Sheet, Total Assets is considered as a base for the computation of common size percentages of each financial element present in the Balance sheet.

*Caution*

In the case of preparing a common size balance sheet and statement of profit & loss, at time calculating common size percentages, same year data is considered. That is why it is known as Static or Vertical Analysis.

Below are the Common Size Balance Sheet and Common Size Statement of Profit & Loss of HUL for 2020 and 2019. Thus, in the following analysis, common size analysis is extended to Horizontal Analysis by considering two years for deriving better inferences.

*Notes*

The common Size Balance Sheet is prepared by calculating common size percentages of 2020 and 2019 separately.

In the case of the Common Size Balance Sheet, for 2020 common size percentages, all individual financial elements of the Balance Sheet of 2020 are divided by Total assets of 2020 and then multiplied by 100.

For 2019 common size percentages, all individual financial elements of the Balance Sheet of 2019 are divided by the total assets of 2019 and then multiplied by 100.

In the case of Common Size Statement of Profit & Loss, for 2020 common size percentages, all individual financial elements of Statement of Profit & Loss of 2020 are divided by Revenue from Operations [Net]/Sales of 2020 and then multiplied by 100.

For 2019 common size percentages, all individual financial elements of Statement of Profit & Loss of 2019 are divided by Revenue from Operations [Net]/Sales of 2019 and then multiplied by 100.

HUL Common Size Balance Sheets (in ₹ Cr.) as on March 31, 2020 and 2019				
			% of Total Assets	
	2020	2019	%	%
EQUITIES AND LIABILITIES				
SHAREHOLDER'S FUNDS				
Equity Share Capital	216.00	216.00	1.10	1.21
Reserves and Surplus	7815.00	7443.00	39.87	41.66
Total Shareholders Funds	8031.00	7659.00	40.97	42.87
NON-CURRENT LIABILITIES				
Other Long Term Liabilities	1269.00	804.00	6.47	4.50
Long Term Provisions	1198.00	1049.00	6.11	5.87
Total Non-Current Liabilities	2467.00	1853.00	12.59	10.37
CURRENT LIABILITIES			0.00	0.00
Trade Payables	7399.00	7070.00	37.75	39.57
Other Current Liabilities	1287.00	782.00	6.57	4.38
Short Term Provisions	418.00	501.00	2.13	2.80
Total Current Liabilities	9104.00	8353.00	46.44	46.76
Total Capital And Liabilities	19602.00	17865.00	100.00	100.00
ASSETS				
NON-CURRENT ASSETS				
PPE	4625.00	3907.00	23.59	21.87
Intangible Assets	431.00	436.00	2.20	2.44
Capital Work-In-Progress	513.00	373.00	2.62	2.09
Fixed Assets	5569.00	4716.00	28.41	26.40
Non-Current Investments	252.00	256.00	1.29	1.43
Deferred Tax Assets [Net]	261.00	339.00	1.33	1.90
Long Term Loans And Advances	453.00	396.00	2.31	2.22
Other Non-Current Assets	1159.00	784.00	5.91	4.39
Total Non-Current Assets	7694.00	6491.00	39.25	36.33
CURRENT ASSETS				
Current Investments	1248.00	2693.00	6.37	15.07
Inventories	2636.00	2422.00	13.45	13.56
Trade Receivables	1046.00	1673.00	5.34	9.36
Cash and Cash Equivalents	5017.00	3688.00	25.59	20.64
Other Current Assets	1961.00	898.00	10.00	5.03
Total Current Assets	11908.00	11374.00	60.75	63.67
Total Assets	19602.00	17865.00	100.00	100.00

Source: Author



Task

Comment on the following financials of HUL based on the above given Common Size Balance Sheets as of March 31, 2020, and March 31, 2019.

1. Shareholder's Funds
2. Reserves
3. Long term debt
4. Current Liabilities
5. Non-Current Assets
6. Current Assets
7. Solvency Position
8. Liquidity Position
9. Leverage

HUL: Common Size Statement of Profit & Loss for the year ended March 31, 2020 and 2019				
	(in ₹ Cr.)		% of Net Revenue from Operation	
	2020	2019	2020	2019
Revenue From Operations [Net]/Sales	38273.00	37660.00	1.00	1.00
Other Operating Revenues	512.00	564.00	0.01	0.01
Total Operating Revenues	38785.00	38224.00	1.01	1.01
Other Income	733.00	664.00	0.02	0.02
Total Revenue	39518.00	38888.00	1.03	1.03
EXPENSES				
Cost of Materials Consumed	11572.00	13240.00	0.30	0.35
Purchase of Stock-In Trade	6342.00	4708.00	0.17	0.13
Changes In Inventories of FG,WIP and Stock-In Trade	(121.00)	12.00	(0.00)	0.00
Employee Benefit Expenses	1691.00	1747.00	0.04	0.05
Finance Costs	106.00	28.00	0.00	0.00
Depreciation and Amortisation Expenses	938.00	524.00	0.02	0.01
Other Expenses	9701.00	9880.00	0.25	0.26
Total Expenses	30229.00	30139.00	0.79	0.80
Profit/Loss Before Exceptional, ExtraOrdinary Items And Tax	9289.00	8749.00	0.24	0.23
Exceptional Items	(197.00)	(227.00)	(0.01)	(0.01)
Profit/Loss Before Tax	9092.00	8522.00	0.24	0.23
Total Tax Expenses	2354.00	2486.00	0.06	0.07
Profit/Loss For The Period	6738.00	6036.00	0.18	0.16

Source: Author



Task

From the above give Common Size Statement of Profit & Loss of HUL for the year ending 2020 and 2019, Comment on the following:

1. Revenue
2. Cost of Material Consumed
3. Employee Cost
4. Finance Cost
5. Depreciation
6. Profitability Position



Notes

The following are the individual items that can be analyzed and interpreted through Financial Statement Analysis.

- Fixed Assets
- Investments
- Current Assets
- Shareholder's Funds
- Reserves
- Outsider's Funds
- Current Liabilities

The following are the overall performance measures that can be analyzed and commented upon through Financial Statement Analysis.

- Fixed Assets Utilization
- Operational Efficiency
- Inventory Management
- Creditors/Payment Management
- Debtors/Collection Management
- Financial Efficiency
- Working Capital/Liquidity Management
- Solvency Position
- Leverage to know Financial Risk

Summary

Financial statement analysis can be explained as a method used by interested parties such as investors, creditors, and management to evaluate the past, current, and projected conditions and performance of the firm.

Under the financial statement analysis, the information available is grouped to cull out the meaningful relationship which is already available among them; for interpretation and analysis.

Two primary types of financial statement analysis are commonly known as horizontal analysis and vertical analysis.

Certain qualitative information about the firm in terms of solvency position, liquidity position, profitability position, Financial policy etc., are extracted from the analysis of the financial statements.

Comparative (income) financial statement analysis is being carried out between income statements of the various accounting periods of the firm, with other firms in the industry and with the industrial average.

Financial statement analysis is very helpful to compare a firm's financial position and performance versus its past, competitors and industry. Thus, it plays a significant role in inter-firm and intra-firm comparisons.

Keywords

Analysis: It is a simplification of financial data by methodical classification of the data given in the financial statements.

Interpretation: It means, 'explaining the meaning and significance of the data so simplified.' It refers to drawing inferences from the performed financial statement analysis and understanding what does it indicate.

Common Size statement: A common size financial statement displays entries as a percentage of a common base figure rather than as absolute numerical figures.

Comparative Statements: Comparative statements are financial statements that follow a consistent format but which cover different periods. Comparative statements are very useful for spotting trends.

Financial Statement: A written report which quantitatively describes the financial health of a company.

Financial Statement Analysis: It is the process of examining relationships among financial statement elements and making comparisons with relevant information

Trend Analysis: In trend analysis, financial ratios or financial elements are compared over time, typically years.

Self-Assessment/Evaluation

1. Which financial elements of the Balance Sheet should be considered to analyze and comment on Working Capital Management or Liquidity Management of a Company?

- a) Current Assets, Fixed Assets
- b) Current Liabilities, Current Assets
- c) Current Assets, Non-Current Liabilities
- d) Non-Current Assets, Non-Current Liabilities

2. Which financial elements of the Balance Sheet should be considered to analyze and comment on the Solvency position of a company?

- a) Current Assets, Current Liabilities
- b) Non-Current Assets, Non-Current Liabilities
- c) Current Assets, Fixed Assets
- d) Non-Current Assets, Current Liabilities

3. Comparison of financial statements highlights the trend of the _____ of the business.

- a) Financial position
- b) Financial Performance
- c) Operational Efficiency
- d) All of above

4. Which technique used for figures of two or more periods are placed side by side to facilitate easy and meaningful comparisons?

- a) Comparative statement
- b) Common-size statement
- c) Trend Analysis
- d) None

5. The main objective of preparing a Common Size Statement of Profit and /loss is:

- a) To present changes in assets and liabilities
- b) To judge the financial soundness
- c) To establish a relationship between revenue from operations and other items of statement of Profit and Loss
- d) All of the above

6. In the Common Size Balance sheet:

- a) The figure of current liabilities is assumed to be 100
- b) The figure of fixed assets is assumed to be 100
- c) The figure of total assets is assumed to be 100
- d) The figure of share capital is assumed to be 100

7. Tata steel's current assets decreased from ₹ 4,00,000 to ₹ 3,00,000. What is the percentage of change?
- 25%
 - 33%
 - 30%
 - 40%
8. refers to drawing inferences from the performed financial statement analysis and understanding what does it indicate.
- Summarization of Financial statements
 - Analysis of Financial statements
 - Interpretation of Financial statements
 - Preparation of Financial statements
9. Financial Statement analysis is performed to assess:
- The earning capacity or profitability of the firm
 - The operational efficiency and managerial effectiveness of the firm
 - The short term as well as long term solvency position of the firm
 - All of above
10. The term financial statement analysis includes both ----- and interpretation
- Comparison
 - Analysis
 - Conclusion
 - Constructions
11. If the total assets of a firm are ₹ 8,20,000 and its fixed assets are ₹ 5,90,400, what will be the percentage of current assets on total assets?
- 42%
 - 58%
 - 28%
 - 72%
12. Total assets of a firm are ₹ 40,00,000 and its fixed assets are ₹ 16,00,000. What will be the percentage of fixed assets on total assets?
- 60%
 - 40%
 - 29%
 - 71%
13. Horizontal Analysis shows the comparison of data for several years against a chosen.....
- Base year
 - Financial year
 - Previous year
 - Calendar year
14. Comparison of financial variables of a firm over a period of time is known as
- Comparative
 - Common-size
 - Trend analysis
 - None of the above

15. Common size Income Statement present the various items as a percentage of

- a) Sales
- b) Credit sales
- c) Cash sales
- d) Cost of Sales

Review Questions

1. What is meant by Financial Statement Analysis? Explain the tools of Financial Statement Analysis.
2. State the objectives of performing Financial Statement Analysis.
3. Explain the stakeholders that are interested to perform Financial Statement Analysis and give the reasons thereof.
4. Illustrate the meaning and tools of Horizontal analysis.
5. Illustrate the meaning, methods and purpose of Vertical analysis.
6. Perform Vertical Analysis (Common size) on ITC Profit and Loss Account.

ITC Profit & Loss account In ₹ crore	
	Mar '20	Mar '19
Revenue From Operations [Gross]	46,323.72	45,221.41
Less: Excise/Sevice Tax/Other Levies	1,187.64	788.74
Revenue From Operations [Net]	45,136.08	44,432.67
Other Operating Revenues	483.62	562.98
Total Operating Revenues	45,619.70	44,995.65
Other Income	3,013.66	2,484.54
Total Revenue	48,633.36	47,480.19
EXPENSES		
Cost of Materials Consumed	13,121.76	13,184.97
Purchase of Stock-In Trade	4,289.71	4,300.32
Changes In Inventories of FG,WIP And Stock-In Trade	-176.34	-180.14
Employee Benefit Expenses	2,658.21	2,728.44
Finance Costs	55.72	34.19
Depreciation and Amortisation Expenses	1,563.27	1,311.70
Other Expenses	7,822.11	7,656.55
Total Expenses	29,334.44	29,036.03
Profit/Loss Before Exceptional, ExtraOrdinary Items And	19,298.92	18,444.16
Exceptional Items	-132.11	0.00
Profit/Loss Before Tax	19,166.81	18,444.16
Total Tax Expenses	4,030.76	5,979.84
Profit/Loss For The Period	15,136.05	12,464.32

Make Interpretations on the following:

1. Cost of Material Consumed
2. Employee Cost
3. Finance Cost
4. Depreciation
5. Profitability Position

7. Perform Trend Analysis on given Key financial element for ITC and Comment on--

1. Receivable Management
2. Payable Management
3. Fixed Asset Utilization
4. Inventory Management

ITC Balance Sheet----- in ₹ Cr. -----					
	Mar 20	19-Mar	18-Mar	17-Mar	16-Mar
Total Shareholders Funds	64,029.16	57,949.79	51,400.07	45,340.96	32,929.00
Total Non-Current Liabilities	2,116.79	2,226.57	2,124.64	2,044.92	2,001.57
Total Current Liabilities	9,089.41	9,621.56	8,856.60	6,830.07	14,587.86
Fixed Assets	23,297.75	21,887.76	20,591.57	18,417.26	16,705.36
Non-Current Investments	13,455.59	14,071.45	13,493.77	8,485.51	6,392.90
Inventories	8,038.07	7,587.24	7,237.15	7,863.99	8,519.82
Trade Receivables	2,092.00	3,646.22	2,357.01	2,207.50	1,686.35
Cash and Cash Equivalents	6,843.27	3,768.73	2,594.88	2,747.27	6,563.95
Short Term Loans And Advances	4.87	5.02	4.15	3.37	501.84
Total Current Assets	36,506.91	29,568.96	24,503.00	24,537.39	24,134.74
Revenue From Operations [Net]	45,136.08	44,432.67	40,254.67	39,641.91	36,475.27
Total Operating Revenues	45,619.70	44,995.65	40,627.54	40,088.68	36,837.39
Total Expenses	29,334.44	29,036.03	26,318.58	26,571.63	23,682.74
Profit/Loss Before Tax	19,166.81	18,444.16	16,851.70	15,502.96	14,958.39
Cost of Materials Consumed	13,121.76	13,184.97	11,756.21	11,765.56	11,054.75
Purchase of Stock-In Trade	4,289.71	4,300.32	2,991.98	3,566.57	2,590.08
Finance Costs	55.72	34.19	86.65	22.95	49.13
Depreciation and Amortisation Expenses	1,563.27	1,311.70	1,145.37	1,038.04	1,034.45

8. Perform Comparative Financial Statement Analysis on ITC's Balance Sheet as of March 31, 2020, and March 31, 2019, and Interpret the following:

1. Fixed Assets
2. Investments
3. Current Assets
4. Shareholder's Funds
5. Reserves
6. Outsider's Funds
7. Current Liabilities
8. Solvency Position
9. Liquidity Position
10. Leverage

ITC Balance Sheet-----in ₹ Cr. -----		
	Mar 20	19-Mar
EQUITIES AND LIABILITIES		
Equity Share Capital	1,229.22	1,226
Reserves and Surplus	60,777.76	54,725.99
Employees Stock Options	2,022.18	1,997.94
Total Shareholders Funds	64,029.16	57,949.79
NON-CURRENT LIABILITIES		
Long Term Borrowings	5.63	7.89
Deferred Tax Liabilities [Net]	1,617.65	2,044.14
Other Long Term Liabilities	349.72	41.9
Long Term Provisions	143.79	132.64
Total Non-Current Liabilities	2,116.79	2,226.57
CURRENT LIABILITIES		
Short Term Borrowings		
Trade Payables	3,446.74	3,368.28
Other Current Liabilities	5,524.73	6,228.04
Short Term Provisions	117.94	25.24
Total Current Liabilities	9,089.41	9,621.56
Total Capital And Liabilities	75,235.36	69,797.92
ASSETS		
NON-CURRENT ASSETS		
Tangible Assets	19,612.74	17,945.65
Intangible Assets	519.45	540.75
Capital Work-In-Progress	2,776.31	3,391.47
Intangible Assets Under Development	3.89	9.89
Other Assets	385.36	0
Fixed Assets	23,297.75	21,887.76
Non-Current Investments	13,455.59	14,071.45
Long Term Loans And Advances	3.31	6.21
Other Non-Current Assets	1,971.80	4,263.54
Total Non-Current Assets	38,728.45	40,228.96
CURRENT ASSETS		
Current Investments	17,175.02	12,506.55
Inventories	8,038.07	7,587.24
Trade Receivables	2,092.00	3,646.22
Cash and Cash Equivalents	6,843.27	3,768.73
Short Term Loans And Advances	4.87	5.02
Other Current Assets	2,353.68	2,055.20
Total Current Assets	36,506.91	29,568.96
Total Assets	75,235.36	69,797.92

Answers: Self-Assessment

1.	B	2.	b	3.	d	4.	a	5.	c
6.	c	7.	a	8.	c	9.	d	10.	b
11.	c	12.	b	13.	a	14.	c	15.	a

Further Reading*Books*

1. Management Accounting by Khan M.Y And Jain P.K, Mcgraw Hill Education
2. Financial Accounting for Management by Shah Paresh, Oxford University Press
3. A Textbook of Accounting for Management by Maheshwari. S.N, Maheshwari Sharad. K, Maheshwari Suneel. K, Vikas Publishing House
4. Financial Accounting for Management: An Analytical Perspective by Gupta Ambrish, Pearson Education India
5. Financial Accounting by Goyal V.K, Excel Books, New Delhi
6. Accounting & Finance for Managers by Pandikumar M.P, Excel Books, New Delhi

*Online Links*

1. <https://www.yourarticlelibrary.com/accounting/financial-statements-analysis/types-financial-statements-analysis/4-important-types-of-financial-analysis-in-a-firm-accounting/66776#:~:text=Comparative%20statements%20and%20trend%20percentages%20are%20two%20tools%20employed%20in%20horizontal%20analysis.&text=In%20this%20types%20of%20analysis,known%20as%20'Static%20Analysis'>.
2. [https://www.readyratios.com/reference/analysis/horizontal analysis of financial statements.html](https://www.readyratios.com/reference/analysis/horizontal%20analysis%20of%20financial%20statements.html)
3. <https://www.investopedia.com/terms/h/horizontalanalysis.asp#:~:text=Horizontal%20analysis%20is%20also%20referred,of%20the%20base%20year%20amounts>.

Unit 05: Artificial Intelligence and Analysis

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Summary

Keywords

Self-Assessment

Objectives

After studying this unit, you will be able to:

- explain the role of Artificial Intelligence in the world of Accounting and Finance.
- review the impact of Artificial Intelligence on the job descriptions and opportunities of accountants.
- predict the future prospects of Artificial Intelligence in the world of Accounting and Finance.
- assess the Artificial Intelligence capabilities in the world of Accounting and Finance.
- criticize the Artificial Intelligence in the world of Accounting and Finance through reviewing the practical challenges it carries with itself.

Introduction

As Artificial Intelligence (AI) has been implemented for every industry, it is significantly impacting the world of accounting and finance. Due to tremendous hike in regulations and clients' requirements, many accounting firms are adopting to a new type of workforce to assist them in performing their time-consuming tasks. This novel workforce and its provided support can assist companies to carry out the most complicated and complex tasks without asking for a weekly, monthly or yearly pay. That's because, this novel workforce is artificial but not human.

Accountants have welcomed the waves of automation over many years to enhance the efficiency and effectiveness of their work. But this fact cannot be ignored that technology has not been able to replace the need for expert knowledge and decision-making till date. Thus, Accountants have embraced the Artificial Intelligence in their work along with accepting the fact that their personal skills and knowledge are key to take best advantage of the AI in their domains. This unit is throwing insights on meaning of Artificial Intelligence and its role in Accounting world.

5.1 What is Artificial Intelligence (AI)?

Artificial Intelligence (AI) expands the potentialities and capabilities of computing to a whole new position. It allows systems to make forecasts and make changes accordingly in the data- just as humans would. It renders computers to perform machine-based learning, which earlier was left to humans.

5.2 Artificial Intelligence in Accounting

Although AI techniques such as machine learning are not novel, and even the speed of change is fast, yet its adoption in business and accounting is still in inception stages. To create a positive vision of the future, it is required to build an in-depth understanding of how AI can solve accounting and business problems, the practical challenges and the skills accountants need to work alongside intelligent systems.

From saving finance and time cost and giving insights, AI-enabled accounting and finance systems are the way accounting and finance professionals and their firms will gain competitive edge and attract the next generation of employees and customers.

Where persons deal with rote tasks, AI is a replacement of human capabilities for the better in the accounting profession.

A recent survey was conducted by MIT-Boston Consulting Group. It was suggested that nearly 85% of people believe that AI leads to competitive advantage, and 79% believe that technology increases the productivity of the company. Thus, the survey' findings put forward the wider scope of AI applicability in business and accounting world in times to come.

Relevance of Artificial Intelligence in Accounting

Artificial intelligence is being used by many accounting firms where it analyses a large volume of data at high speed, which would not be easy for humans.

AI in the Accounting Sector

Many Companies these days are accepting and implementing new technologies to streamline their Accounting function. That is due to so many positive results in terms of increased productivity, improved accuracy, and reduced cost that AI provides to business and accounting world.

AI is used increasingly for accounting and administrative tasks, resulting in several structural changes in the way accounting function and other administrative tasks are performed.



Example: AI enables all the data handling and processing process as completely automated. Therefore, AI brings one of key benefit to the business in the area of compliance. As, the data generated by any tax or other business' functional report would have assured accuracy levels and will be generated quickly. This is due to least computing errors that AI incurs in data handling and processing stage.

Additionally, with the assistance of AI, data can be easily and quickly recognized and classified from different sources to the right accounting head. Several other dedicated tasks that were done by accountants like processing of accounts receivables and payables are simply handled by AI. This ends up in improved cost management by corporations.

5.3 Accounting Tasks which Machines can Do

The following are some common tasks that machines can perform with high efficiency and effectiveness.

- Audit
- Procurement
- Accounts payable/receivable
- Monthly or quarterly close procedure
- Expense Management
- AI Chatbots

Audit

It becomes an easy task to track about which file is accessed by whom, when and how many times through Digitalization. Thus, AI enhances the security of data and files. Even it assists Auditing function as auditors do not require to find file cabinets for documentation as they can easily have access to the digital files during an audit.

This, in turn, improves the accuracy and efficiency of audits and makes it possible to audit 100 percent of a firm's financial transactions instead of just samples.

Procurement

Many companies' tracking and procuring method is filled with lots of paperwork and companies use various file formats which may not be compatible with each other. However, machines with APIs (Application Programming Interface) can be integrated, and unstructured data can be processed. This makes the procurement process paperless and easier. One can easily track the changes in price among multiple suppliers with the help of AI.

Accounts Payable/Receivable

The existing AI systems meant to resolve accounting function of a firm already has an AI-powered invoice management process which can make accounts payable/receivable processing more streamlined with the help of digital workflow. They can learn the accounting code for the respective invoice.

Monthly or Quarterly Close Procedure

The sooner you get the numbers, the longer time your company has to take for making strategies about what can be done with those numbers. AI can give you data from numerous sources, consolidate, and merge it. This would not only accelerate up this monthly process but would also bring more accuracy due to involvement of machines.

Expense Management

It can be a time-consuming process to review and approve all the incomes and expenses to make sure that they are compliant with the company's policies. AI makes it much easier and quicker as machines can check receipts, review expenses, and warn people if there is any breach.

AI Chatbots

Computers or machines can effectively resolve certain common queries from users, such as when bills are getting due, the latest account balance, and status on accounts with the help of AI chatbots.

5.4 AI doesn't Mean Job Losses?

Artificial intelligence is definitely freeing up accountants from doing menial, rote and administrative tasks. However, it does not let accountants free from their jobs as AI allows them to:

- broaden their roles.
- to deliver high value and better service to clients.
- to concentrate on the company' growth and its overall success.



Example: We can take an example of auditing of expense claims where AI can be utilized to remember and implement a company's expense policy.

This would mean that accountants would no longer have to look through the receipts and categorize dates and GST numbers. Similar to cloud accounting disruption in the accounting sector, accounting professionals will have to rethink their profiles.

Opportunities for Accountants

In response to new capabilities in data analytics, Accounting roles are already changing. Indeed, accountants are well placed to work effectively with data analytics, as they combine high levels of numeracy with strong business awareness. These trends will accelerate with AI.

Some roles will continue to emphasize human judgement and technical accounting expertise to handle the difficult and novel cases.

Other roles may extend to upgrade collaboration and partnering with other organisation' parts to help them get the right meaning from data and models. There will also be new jobs.



Example: Accountants will require to be involved in training or testing models, or auditing algorithms. They may necessitate to get involved in projects to help frame the problems and integrate results into business processes.

Other accountants may be more directly involved in managing the inputs or outputs, such as exception-handling or preparing data.

What is Left for Accountants?

Having better technology wouldn't mean anything on the off chance that one can't follow up on it. That is the place where the job of an accountant comes. Regardless of whether machines can play out every one of the computations or starting review related undertakings, somebody would be required to bring meaning inferences from such calculations.

The following tasks are left for accountants post performance of regular calculative tasks by AI:

- To analyze the process and draw a meaningful conclusion.
- To move their roles into consulting and advising to ensure that they are taking full advantage of automation while helping their business grow.
- To focus more on strategic tasks like planning the financial budget, capital optimization, process improvement, and more.

What's Ahead?

Small Medium Businesses (SMBs) don't have the same resources as compared to bigger firms to create their own AI products. However, experts believe that AI would be widely available even for smaller firms at a standard fare in the coming years.

Artificial Intelligence is already affecting the marketing sector and would also bring radical changes in the accounting sector with a huge possibility of the reduction in costs and increased productivity.

This is in addition to the accuracy and precision which AI can bring in any menial and repetitive manual tasks which have been automated.

In view of the remarkable progress made by AI, this new world would be well-known to accountants long before self-driving truck drops invoices in their office.

5.5 How are Accountants using AI Capabilities?

Accountants apply their technical knowledge about accounting and finance to help businesses and stakeholders make better decisions. To support their decision-making and advice, accountants need high quality financial and non-financial information and analysis.

This is reflected in a wide range of accountancy roles across business and practice to capture, prepare, check and communicate information, to undertake analysis, and to make a wide variety of decisions.

Accountants have been deploying technology for many years to help them provide better advice and make better decisions. Technology can assist them do this by solving three broad problems:

- providing better and cheaper data to support decision-making;
- generating new insights from the analysis of data; and
- freeing up time to focus on more valuable tasks such as decision-making, problem solving, advising, strategy development, relationship building and leadership.

The very nature of machine learning techniques lets themselves to significant upgrades across all areas of accounting, and can furnish accountants with amazing new capacities, just as mechanize or automate numerous tasks and decisions.

Accordingly, it is critical to recognize accounting and business issues where AI is probably going to be especially productive and where issues might be less appropriate for these procedures. This will guarantee that appropriation endeavours are driven by business need, instead of basically technology capacities. Until now, there has been restricted use in real-world accounting however early exploration and execution projects include:

- using machine learning to code accounting entries and improve on the accuracy of rules-based approaches, enabling greater automation of processes;
- improving fraud detection through more sophisticated, machine learning models of 'normal' activities and better prediction of fraudulent activities;

- using machine learning-based predictive models to forecast revenues; and
- improving access to, and analysis of, unstructured data, such as contracts and emails, through deep learning models.

5.6 Practical Challenges with AI

Data quality and volumes are extremely significant for AI systems to get succeed. Models will simply not be able to learn without enough good data.

Transactional accounting data should be a promising starting point for developing models due to its high quality and well-structured nature. However, given long-standing problems around data in many organisations, especially those with complex and unintegrated legacy systems, this is still likely to be a major challenge in practice. Smaller organisations may not have enough data to enable accurate results. Similarly, there may not be enough data about very specific problems to support good models. Powerful models may need external sources of data, which may not always be possible to access at an appropriate cost.

Besides, it is hard to anticipate how effective AI will be. Models learn based on a particular dataset. Hence, building experience of both fruitful and less effective cases will assist with advising future adoption.

Another significant issue will be privacy and ethics, particularly where AI frameworks are drawing on close to home or personal information. Misrepresentation location or Fraud detection, for instance, may draw on the content of messages sent by workers through emails, which will experience legitimate and ethical cut-off points.

Adoption will also be ultimately driven by the economics and business case around AI. This will reflect two different ways that organisations will adopt machine learning capabilities.

To begin with, AI is progressively getting incorporated into business and Accounting programming software. Therefore, numerous bookkeepers and accountants will experience AI without acknowledging it, like how we utilize these abilities in our online searching or shopping exercises. This is the way more modest and smaller associations specifically are destined to embrace AI apparatuses or tools.

Second, cognizant selection of AI abilities or capabilities to tackle explicit business or accounting issues will regularly require significant investment. While there is a ton of free and open-source programming software around here in this area, the utilization of set up programming providers might be needed for lawful or administrative reasons. Given the data volumes included, generous equipment and handling force might be required, regardless of whether it is gotten to on a cloud premise. Subsequently, AI investments will probably will likely focus on the zones that will have the biggest financial impact, especially cost reduction opportunities, or those that are crucial for competitive positioning or customer service. Different other zones, while conceivably advantageous, may do not have a solid investment case. Moreover, utilizing AI to grow more astute items in expert accounting territories may come up short available potential to legitimize investment from programming developers.

5.7 Roles and Skills

Organisations will likewise require admittance to the right skills. Obviously, this begins with technical expertise in machine learning. But, as with data analytics, these technical skills require to be complemented by in-depth understanding of the business context that surrounds the data and the insight required.

Accounting jobs are as of now changing because of new capabilities in data analytics. For sure, accountants are all around set to work adequately with data analytics, as they consolidate undeniable high levels of numeracy with solid business mindfulness or awareness. These patterns will speed up with AI. A few jobs will keep on underlining specialized accounting mastery and human judgment to manage troublesome and novel cases.

Different jobs may grow to expand collaboration and partnering with different parts of the association to assist them with getting the correct significance from information and models. There will likewise be new openings.

This evolution will be reflected in the skills required of accountants. Some roles, such as training models, may need in-depth knowledge of machine learning techniques. In other areas, accountants

may just need a more superficial knowledge of machine learning to be able to have informed conversations with experts and other parts of the business. Critical thinking and communication skills are likely to become increasingly important.

In addition to skills, accountants may require to follow new ways of thinking and acting in order to make the most of machine learning tools. For example, investing more time on predictive and proactive activity – e.g., putting predictions in context, or building capabilities to change course quickly – will need different ways of thinking.



Case Study

Artificial Intelligence projects from Deloitte

Deloitte has positioned itself on the optimistic side of that spectrum. “We believe that artificial intelligence will be extremely helpful to us and to our clients”, says Richard Roovers, a partner at Deloitte Netherlands and Innovation Lead Transformational Solutions North-West Europe. Artificial intelligence will enable us to solve problems that humans are unable, or hardly capable, of solving, explains Richard. “Artificial intelligence is capable of processing massive quantities of data and has the ability to discover patterns that even the smartest mathematicians are unable to find. That in itself opens up a large number of new possibilities.”

The case studies provide an overview of the ways in which Deloitte is working to develop applications incorporating artificial intelligence – both internally and for use with clients. The applications are diverse, make use of different technologies and can be found in a diverse range of industries. This shows that aside from all of the predictions for the future, artificial intelligence has already been a reality in the business sector for some time and forms a resource that could possibly provide your company with a decisive lead.

How is Deloitte using AI?

Deloitte is deploying maximum resources in the area of artificial intelligence. That is why it recently brought together all of its projects and initiatives in the area of artificial intelligence into the Artificial Intelligence Center of Expertise (AICE), in which hundreds of AI experts from the entire organisation are involved. Learning plays a key role, says Innovation Lead, Richard Roovers. “From a technical point of view, there can be considerable overlap between the AI applications being used in different industries. Take image recognition, for example – you can use that technology for the automatic recognition of installations on satellite images, but also in an app in order to detect skin cancer. Bringing people from different departments together means that we can share knowledge and accelerate learning.”

Deloitte is keeping in touch with the AI external community by means of Meetups and hackathons. This enables the organisation to keep up with the latest technical developments. Here too, it is a case of learning as much as can, as quickly as you can, says Roovers: “And we’re not only talking about AI, we’re doing it too. We are experimenting, trying things out, attracting experts and investing in technology. Only then you can you truly understand how and in what cases you can use artificial intelligence in a sensible way.”

In order to innovate effectively, it isn’t simply a case of investing in technology, but of creating support within the organisation as a whole. That is why Deloitte has launched an in-house campaign in order to increase awareness as to the possibilities offered by artificial intelligence – including amongst employees without a technical background. In order to make an abstract concept such as artificial intelligence more tangible, “AIME” the AI-robot was developed. In order to give staff an impression of the potential offered by artificial intelligence, AIME was stood at the entrance to the Deloitte offices and was active on social media.

The aim of this was to draw attention to artificial intelligence in an accessible way, explains Roovers. “And it worked. Staff were surprised and intrigued. They started conversations with AIME and took selfies with her. She turned out to be a real conversation starter. “Our employees could then voluntarily sign up for our “AI for dummies” course to learn more about the subject. “The impetus was considerable – even our CEO took part in the course,” continues Roovers.

As far as the company is concerned, Roovers regards artificial intelligence as an opportunity, not a threat. “It’s true that artificial intelligence can take over tasks previously carried out by people – and can even do them much more quickly and accurately. But the most important part of our business, the work that sets us apart from the others, lies in the contact we have with our clients and in providing a tailor-made service and those are things you simply can’t outsource to an algorithm.” He goes on to point out that artificial intelligence can actually make our work more

interesting. “The dull, more repetitive work can be outsourced, leaving more time for the creative work that enables we humans to make a difference.”

What types of solutions is AI able to offer your company?

AI technologies are used to improve service by means of chatbots, to avert cyberattacks, to trace potential fraudsters, to generate benchmarking reports automatically, to estimate the risks that new customers pose to insurance companies, to sort large quantities of digital evidence and much more besides.

In short, the potential of artificial intelligence is huge. Roovers: “The trick is to find out how we can make it useable within our own organisation. On the one hand, we can do that by creating smarter processes, but we can also use artificial intelligence to set up entire new products or services.”

But where do you start? The first thing you need is a knowledge of the technologies. After that, it is possible to explore the possibilities that exist within your own organisation and identify opportunities and threats. After that, it’s a case of developing proofs of concept – and if those turn out OK, they can then be scaled up.

Deloitte is able to assist with all of these steps: from exploring the possibilities to developing proofs of concept and long-term collaboration processes and co-creation. “Artificial intelligence is no panacea”, warns Roovers. “It’s a case of looking very carefully to identify precisely what problem you wish to solve and what technologies are available. In some cases, less advanced technologies are already sufficient to solve the problem.”

As per Roovers, Artificial intelligence will enable us to solve problems that humans are unable, or hardly capable, of solving.

Few Key Areas where Deloitte is applying AI

Tax and Legal Matters (TAX - I)

What if you could automate this preliminary legal work? Not only would it enable a tax case to be settled more quickly, but also more efficiently and accurately. That was the idea behind TAX-I, a virtual legal research assistant developed by Deloitte. TAX-I is able to use artificial intelligence to analyse thousands of tax cases of the European Court of Justice, relate them to similar cases, summarise them, and even predict how a court would rule in a case.

An AI benchmark study of Transfer Pricing

If a company forms part of an international group, the prices and conditions applied to the sale of goods and services within this group must be similar to those of third parties. This is intended to prevent improper diversion of profits between countries. However, it saddles companies with a problem, says Martijn Krassenburg, Manager Transfer Pricing at Deloitte. After all, which prices of which companies are deemed ‘similar’?

A benchmark study is needed to respond to that question. One variant of such studies looks at what companies undertake identical activities in a similar industry, and the reported margins are checked against those of the company in question. That is quite a laborious process, in which many repetitive tasks are carried out manually. “This is the reason we chose to see if it was feasible to robotize this work,” clarifies Krassenburg.

Krassenburg: “Robotic Process Automation is the automation of simple, repetitive tasks, which in this case are searching websites and saving screenshots, and it has enabled us to speed up that process considerably.”

But the team’s ambitions extend further. “We are busy developing artificial intelligence that will automatically estimate the extent to which a company is similar,” he adds. The system is already able to perform rough screening, and its self-learning ability means it will become increasingly accurate the more it is used.

SONAR: find labelling errors in databases

SONAR was developed for a client, but Smit believes the technology is generic enough to be implemented for other problems. It works particularly well with databases containing at least 2,500 products, and a reference database must be available. “SONAR permits you to check the information entered by humans undeniably more rapidly and precisely asserts Smit. “Furthermore, the best part about it is, the more often you use the technology and the more

product information that becomes available, the more accurate the results will be.”

Audit

When auditors assess a risk strategy, they partly base it on knowledge that they gained during prior audits. Deloitte is now developing a smart personal assistant that supports auditors using the pooled expertise of all their fellow professionals.

Chatbot as a search tool for an online technical library

Deloitte’s online technical library is so extensive that you could easily get lost in it. That is why employees will soon see the introduction of a smart chatbot that will guide them through the jungle of laws, regulations, auditing and accounting standards, and specialist literature.

Virtual assistants: beyond the hype

we will be having more conversations with bots than with our partners, according to marketing guru Heather Pemberton Levy. That certainly could be the case: now that companies are using chatbots, and smart speakers such as Amazon Alexa and Google Home are on the rise, virtual assistants are becoming increasingly integrated into everyday life.

Risk Advisory

At present, this type of risk assessment is still largely carried out with the aid of labour-intensive models, and it often costs a great deal of time to deliver a new risk model. Deloitte is working with new technologies that are helping insurers to make assessments with greater speed and accuracy.

There are other areas such as Predicting Payment behaviour, Eagle Eye: using the web for early detection of credit migrations, Combating welfare fraud with machine learning, Using machine learning and network analytics to search for a needle in a haystack, Clustering unstructured information in BrainSpace, etc., where Deloitte is applying AI to bring quick and accurate solutions.

Source: <https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/innovatie/deloitte-nl-innovatie-artificial-intelligence-16-practical-cases.pdf>

Summary

As Artificial Intelligence (AI) has been implemented for every industry, it is significantly impacting the world of accounting and finance.

Artificial Intelligence (AI) expands the potentialities and capabilities of computing to a whole new position. It allows systems to make forecasts and make changes accordingly in the data- just as humans would.

Artificial intelligence is being used by many accounting firms where it analyses a large volume of data at high speed, which would not be easy for humans.

AI is used increasingly for accounting and administrative tasks, resulting in several structural changes in the way accounting function and other administrative tasks are performed.

The following tasks are left for accountants post performance of regular calculative tasks by AI:

- To analyze the process and draw a meaningful conclusion.
- To move their roles into consulting and advising to ensure that they are taking full advantage of automation while helping their business grow.
- To focus more on strategic tasks like planning the financial budget, capital optimization, process improvement, and more.

Small Medium Businesses (SMBs) don’t have the same resources as compared to bigger firms to create their own AI products. However, experts believe that AI would be widely available even for smaller firms at a standard fare in the coming years.

Keywords

Artificial Intelligence (AI): It allows systems to make forecasts and make changes accordingly in the data- just as humans would. It renders computers to perform machine-based learning, which earlier was left to humans.

Machine learning: It is a research field that is capable of recognizing patterns in data and developing systems that will learn from those.

Supervised machine learning: It trains systems using examples classified (labelled) by humans - for example: these transactions are fraudulent; those transactions are not fraudulent. Based on the characteristics of that classified data, the system learns what the underlying patterns of those types of item are and is then able to predict which new transactions are highly likely to be fraudulent.

Unsupervised machine learning: It is able to discover patterns in large quantities of unlabeled data. It attempts to discover an underlying structure of its own accord, such as by clustering cases that resemble one another and making associations. For example, retail companies are able to use purchasing data to recognize what products are often bought together and can adjust their offer to reflect that, or can even provide personalized offers.

Natural language processing: It is an area of research that focuses on training artificial models to process a human language.

Self-Assessment

- _____ allows systems to make predictions and make changes accordingly, just as humans would.
 - Artificial Intelligence
 - Computerization
 - Digitalization
 - Accounting
- Artificial Intelligence (AI) enables computers to perform _____, which earlier was left to humans.
 - Machine-based learning
 - Accounting learning
 - Learning
 - All of above
- In the accounting profession, where people deal with rote tasks, AI is a replacement of _____ for the better.
- Artificial intelligence is being used by many accounting firms where it analyzes a _____ of data at _____, which would not be easy for humans.
 - Large volume, high speed
 - Small volume, high speed
 - Large volume, slow speed
 - Small volume, slow speed
- Companies today are embracing and implementing AI to streamline their Accounting function. That is because AI is providing positive results such as:
 - Increased productivity
 - Improved accuracy
 - Reduced cost
 - All of Above
- The following benefit/s is/are provided by Artificial Intelligence in accounting world:
 - Manual data handling & processing

- b) Improved cost management
 - c) Preparation of inaccurate tax reports
 - d) All of above
7. Select the accounting task/s that machines can do from the following:
- a) Procurement
 - b) Audit
 - c) Expense management
 - d) All of above
8. With AI, machines can efficiently resolve common queries from users, such as when bills are due, the latest account balance, and status on accounts through _____
- a) Expense management
 - b) Accounts receivable management
 - c) Procurement
 - d) AI Chatbots
9. Artificial intelligence is definitely freeing up accountants from doing menial and administrative tasks.
- a) True
 - b) False
10. Artificial intelligence allows accountants to:
- a) narrowing their roles
 - b) deliver low value and poor service to clients
 - c) focus on the growth of the company and overall success
 - d) focus on the growth of the company
11. Artificial Intelligence create new job opportunities for Accountants. For example, Accountants will need to be involved in _____.
- a) training models
 - b) training or testing models
 - c) testing models
 - d) training or testing models, or auditing algorithms
12. With the rise of AI, accountants are expected:
- a) To analyze the process and draw a meaningful conclusion
 - b) To study the process
 - c) To ask heads to draw a meaningful conclusion
 - d) To sit ideal
13. In the companies which have implemented AI for accounting function, accountants are expected:
- a) To move their roles into consulting and advising to ensure that they are taking full advantage of automation while helping their business grow
 - b) To focus less on strategic tasks like planning the financial budget, capital optimization, process improvement, and more
 - c) To focus on regular calculative tasks
 - d) To prepare the books of accounts

14. Many experts believe that in the coming years, AI would be widely available even for smaller firms at a standard fare.

- a) True
- b) False

15. Technology can help accountants to use AI capabilities by solving _____ broad problems.

- a) One
- b) Two
- c) Three
- d) Four

Review Questions

1. What do you mean by Artificial Intelligence? Explain its relevance and role of Artificial Intelligence in the accounting world.
2. State the impact of Artificial Intelligence on the job profiles of Accountants.
3. Does Artificial Intelligence mean Job losses for Accountants? Explain.
4. Explain the accounting tasks that can be easily and quickly performed through Artificial Intelligence.
5. State the practical challenges emerged in accounting world due to Artificial Intelligence.
6. How are Accountants using AI Capabilities?

Answers: Self-Assessment

- | | | | | |
|-------|-------|-----------------------|-------|-------|
| 1. a | 2. a | 3. human capabilities | 4. a | 5. D |
| 6. b | 7. d | 8. d | 9. a | 10. C |
| 11. d | 12. a | 13. a | 14. a | 15. c |

Further Reading



<https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/innovatie/deloitte-nl-innovatie-artificial-intelligence-16-practical-cases.pdf>

<https://www.accountingtoday.com/news/case-studies-ai-data-analytics-in-2020>

<https://www.icaew.com/-/media/corporate/files/technical/technology/thought-leadership/artificial-intelligence-report.ashx>

https://www.hitachi.com/rev/archive/2016/r2016_06/pdf/r2016_06_104.pdf

<http://jultika.oulu.fi/files/nbnfioulu-201905081636.pdf>

<https://bernardmarr.com/default.asp?contentID=1929#:~:text=AI%20can%20often%20provide%20real,the%20data%20show%20unfavourable%20trends.>

Unit 06: Cash Flow Statement

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- 6.1 Meaning and Significance
- 6.2 Objectives of Preparing Cash Flow Statement
- 6.3 Important Definitions
- 6.4 Classification of Cash Flow Statement
- 6.5 Construction of Cash Flow Statement
- 6.6 Analysis of Cash Flow Statement

Summary

Keywords

Self-Assessment/Evaluation

Review Questions

Further Reading

Objectives

After studying this unit, you will be able to:

- explain the meaning of the Cash flow statement and the significance of preparing the same.
- categorize the inflow and outflow of cash under three heads of the Cash flow statement.
- prepare the Cash flow statement of a Business entity.
- comment on an entity's cash position post-analysis of its Cash flow statement.

Introduction

Cash is considered one of the vital sources of the firm to meet day-to-day financial commitments. The daily financial obligations are met out only out of the available resources. The cash resources are availed through two different receipts viz. sales, dividends, interests known as regular receipts and sale of assets, investments known as irregular receipts of the business enterprise. To have a smooth flow of business enterprise, it should have ample cash resources for its regular operations and irregular contingencies. The availability of cash resources mainly depends on the cash inflows of the enterprises. The smoothness in operations of the enterprise is obtained through appropriate matching of cash inflows and cash outflows.

To have smoothness in the enterprise's operations, the firm should have an appropriate volume of cash resources. This smoothness could be attained by way of proper analysis and planning on the firm's cash resources. The meaningful analysis is only possible through cash flow statement analysis, which facilitates the firm to identify the firm's potential sources and application of cash.

6.1 Meaning and Significance

Meaning of Cash Flow Statement

The statement of cash flows, or the cash flow statement, is a financial statement that summarizes the amount of cash and cash equivalents entering and leaving a company. The cash flow statement is being prepared based on extracted information of historical records of the enterprise. Cash flow statements can be prepared for a year, for six months, quarterly, and even monthly.



Notes:

The annual Cash Flow Statement is a mandatory Financial Statement and has to get published in the annual reports of all listed Indian companies. AS 3 and Ind AS 7 provides accounting rules and format of preparing & presenting cash flow statement for Indian companies.

Features of Cash Flow Statement

- It is a periodical statement as it covers a particular period, says, month or year.
- It shows the movement of cash in between two balance sheet dates.
- It establishes the relationship between net profit and changes in the cash position of the firm.
- It does not involve matching costs against revenue.
- It shows the sources and application of funds during a particular period.
- It records the changes in fixed assets as well as current assets.
- A projected cash flow statement is referred to as a cash budget.
- It is an indicator of the cash earning capacity of the firm.
- It reflects clearly how the financial position changes over some time due to its operating activities, investing activities, and financing activities.

6.2 Objectives of Preparing Cash Flow Statement

- To access the cash earning capacity of the firm.
- To identify the different sources of cash and various applications of cash during a particular period.
- To give answers for various perplexing questions often encountered by management, such as:
 - why is the firm unable to pay dividend instead of making enough profit?
 - Why is there a substantial idle cash balance despite the loss suffered?
 - Where have the proceeds of the sale of fixed assets gone?
- To assist the management in cash planning and control so that there is no shortage or surplus of cash at any point in time.
- To evaluate the ability of the firm to meet obligations such as loan repayment, dividends, taxes, etc.
- To ensure that the investment gets regular returns in the future from a prospective investor.
- To disclose the reasons for differences among net income, cash receipts, and cash payments.
- To assist the management in making capital budgeting decisions more scientifically.

6.3 Important Definitions

Cash: Cash comprises cash on hand and demand deposits.

Cash Equivalents: Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value.

Cash flows: Cash flows are inflows and outflows of cash and cash equivalents.

6.4 Classification of Cash Flow Statement

Statement of Cash Flow Statement has three components as following:

- Operating Activities
- Investing Activities
- Financing Activities

Operating Activities

They are principal revenue-producing activities of the entities and other activities that are NOT investing or financing activities.



Examples:

Cash Inflows	Cash Outflows
Proceeds from selling of goods and rendering services to customers	Payment of Employee Benefit expenses
Receipt from Royalties, fees, commission and other revenues	Purchase of Inventory from suppliers
	Payment of operating Expenses
	Payment of Taxes

Investing Activities

These activities consist of the acquisition and disposal of long-term assets and other investments not included in cash equivalents.

Cash Inflows	Cash Outflows
Sale of property, plant, equipment, long term investments	Purchase of property, plant, equipment and non-current investments
Receipt from Interest and dividends	

Financing Activities

These activities result in changes in the size and composition of the contributed equity and borrowings of the entity.



Examples:

Cash Inflows	Cash Outflows
Proceeds from issuance of Debts/Bonds	Redemption of preference shares, buy back of own equity shares
Procurement of loans	Redemption of debentures and payment of the long term debts
	Payment of dividends and interest



Task

Let's classify the transactions under Operating, Investing, and Financing Activities.

- Ravish Invests ₹ 5 million in Cash in Samiksha Software Limited (SSL).
- SSL took a loan of ₹ 2 million from Venugopal.
- SSL purchased using cash: computers & furniture, costing ₹ 5.8 million.
- SSL purchased stationary worth ₹ 6,00,000 on credit from M/S Hardeep.
- SSL pays ₹ 2,00,000 to its creditors for supplies.

6.5 Construction of Cash Flow Statement

The Cash Flow statement has three components viz. Cash flows from Operating Activities, Cash flows from Investing Activities, and cash flows from Financing Activities.



Caution:

Cash flows from operating activities can be calculated either by Direct method or Indirect method. In this unit, the cash flow statement where the Indirect Method's cash flows from operating activities is discussed. The following is the format of the Cash Flow Statement where Cash flows from operating activities have been calculated by Indirect Method:

Cash Flow Statement (for the year ended) (Indirect Method)		
Particulars	Details (₹)	Amount (₹)
A. Cash Flows From Operating Activities		
Net Profit/Loss before tax and Extraordinary Items	xxx	
Adjustments For:		
Depreciation	xxx	
Gain/Loss on sale for Fixed Assets	xxx	
Foreign Exchange	xxx	
Miscellaneous Expenditure written off	xxx	
Investment Income	xxx	
Interest	xxx	
Dividend	xxx	
Operating Profit before Working Capital Changes		xxx
Adjustment For changes in working capital		
Increase in Current Assets	(xxx)	
Decrease in Current Assets	xxx	
Increase in Current Liabilities	xxx	
Decrease in Current Liabilities	(xxx)	
Cash generated from operations before tax		xxx
Tax Paid		(xxx)
Cash flow before extraordinary items		xxx
Extraordinary Items (such as tax refund)		xxx
Net Cash from (used in) Operating Activities		xxx
B. Cash Flows From Investing Activities		
Purchase of Fixed Assets	(xxx)	
Sales of Fixed Assets	xxx	
Purchase of Investments	(xxx)	
Sale of Investments	xxx	
Interest Received	xxx	
Dividend Received	xxx	
Net Cash from/used in Investing Activities		xxx
C. Cash Flows From Financing Activities		
Proceeds from issue of share capital	xxx	
Proceeds from long term borrowings/banks	xxx	
Payment of long term borrowings	(xxx)	
Dividend Paid	(xxx)	
Net Cash from/used in Financing activities		xxx
Net Increase/Decrease in Cash and Cash Equivalents		xxx
Cash and Cash Equivalents as at(Opening Balance)		xxx
Cash and Cash Equivalents as at(Closing Balance)		xxx

(Source: Author)



Example:

Charles Ltd. made a profit of ₹ 1,00,000 after charging depreciation of ₹ 20,000 on assets and a transfer to general reserve of ₹ 30,000. The goodwill amortized was ₹ 7,000, and the gain on sale of machinery was ₹ 3,000. Other information available to you (Changes in the value of current assets and current liabilities) are trade receivables showed an increase of ₹ 3,000; trade payables an increase of ₹ 6,000; prepaid expenses and increase of ₹ 200; and outstanding expenses a decrease of ₹ 2,000. Ascertain cash flow from operating activities.

Solution:

Particulars	₹
Net Profit before Depreciation and Transfer to Reserves	130000
Adjustment for Non Cash and Non-Operating Items	
Depreciation	20000
Goodwill amortized	7000
(Gain on sale of machinery)	(3000)
Operating profit before working capital	154000
Adjustment for working capital charges:	
(Increase in Trade receivables)	(3000)
Increase in Trade Payables	6000
(Increase in Prepaid Expenses)	(200)
(Decrease in Outstanding Expenses)	(2000)
Net Cash from Operating Activities	154800



Example:

From the following information, calculate Cash Flow from Investing Activities:

	₹		₹
Purchase of Machine	2,50,000	Purchase of Investments	1,60,000
Purchase of Goodwill	1,00,000	Sale of Patents	40,000
Sale of Machine	35,000	Interest and Dividend received	10,000
Sale of Investment	50,000		

A building was purchased as an investment out of surplus, which was let out for commercial purposes. Rent received ₹ 20,000.

Solution:

Cash Flows from Investing Activities	
Particulars	₹
(Purchase of Machine)	(250000)
(Purchase of Goodwill)	(100000)
Sale of Machine	35000
Sale of Investment	50000
(Purchase of Investments)	(160000)
Sale of Patents	40000
Interest and Dividend Received	10000
Rent Received	20000
Net cash used in Investing Activities	(355000)



Example:

From the following information, calculation Cash Flow from Financing Activities:

Particulars	March 31, 2020 (₹)	March 31, 2019 (₹)
Equity Share Capital	10,00,000	9,00,000
Securities Premium Reserves	2,60,000	2,50,000
12% Debentures	1,00,000	1,50,000

Additional Information: Interest paid on debentures ₹ 18,000.

Solution:

Cash Flows from Financing Activities

Particulars	₹
Issue of Equity share Capital	110000
(Redemption of 12% Debentures)	(50000)
(Interest Paid)	(18000)
Net cash generated from Financing Activities	42000



Task

From the following Balance Sheet of Young India Ltd., prepare a Cash Flow Statement

Particulars	31-Mar-19	31-Mar-18
	₹	₹
I. Equity and Liabilities		
1. Shareholders' Funds		
a) Share capital	2,50,000	2,00,000
b) Reserves and Surplus	1,83,000	82,000
2. Non-Current Liabilities		
15% Debentures	80,000	50,000
3. Current Liabilities		
a) Trade Payables	1,50,000	1,10,000
b) Other Current Liabilities	12,000	20,000
Total	6,75,000	4,62,000
II. Assets		
1. Non-Current Assets		
a) Fixed Assets	2,74,000	1,17,000
b) Non-Current Liabilities	68,000	55,000
2. Current Assets		
a) Inventories	2,06,000	1,50,000
b) Trade Receivable	32,000	70,000
c) Cash and Cash Equivalents	95,000	70,000
Total	6,75,000	4,62,000

6.6 Analysis of Cash Flow Statement

A cash flow statement can bring any one of the following eight scenarios. The interpretation of the eight scenarios is given in the following table.

Cash flow from activities (Cases)			
Operating	Investing	Financing	Interpretation
+	+	+	The company uses cash generated from operations and sale of assets and financing to build up a pile of cash. Thus, it is a very liquid company and possibly looking for an acquisition.
+	-	-	The company uses cash generated from operations to buy fixed assets and pay down debt or pay owners.
+	+	-	The company uses cash generated from operations and from the sale of fixed assets to pay down debt or pay owners.
+	-	+	The company uses the cash generated from operations and borrowings (or from owner investment) to expand, i.e., to invest in long-term assets.
-	+	+	The company's operating cash flow problems are covered by selling fixed assets and borrowing or shareholder contributions.
-	-	+	The company is growing rapidly but has shortfalls in cash flows from operations and from the purchase of fixed assets financed by long-term debt or new investment.
-	+	-	The company is financing operating cash flow shortages and payments to creditors and stockholders via the sale of fixed assets.
-	-	-	The company uses cash reserves to finance operation shortfall, finance its fixed assets and pay long-term creditors and investors.



Case Study

Evaluation of the Cash position of Hindustan Unilever Limited (HUL) in 2020 versus 2019 through Cash Flow Statement Analysis

With over 85 years of heritage in India, HUL is India's largest fast-moving consumer goods company. On any given day, nine out of ten Indian households use our products, giving us a unique opportunity to build a brighter future. We are known for our great brands, the positive social impact we create, and our belief in doing business the right way. HUL works to create a better future every day and helps people feel good, look good and get more out of life with brands and services that are good for them and good for others.

Let's learn Cash Flow Statement analysis through Hindustan Unilever Limited (HUL) Cash Flow Statement and assess the Cash position of HUL in 2020 versus 2019.

The HUL' Cash Flow Statement as of March 31, 2020, and March 31, 2019, has been provided below:

Statement of Cash Flows for the year ended 31st March, 2020 (..... ₹ in crore.....)		
Particulars	31-Mar-20	31-Mar-19
A. CASH FLOW FROM OPERATING ACTIVITIES:		
Profit before tax	9092	8522
Adjustments for:		
Depreciation and amortisation expenses	938	524
(Profit) / loss on sale of property, plant and equipment	50	38
Government grant accrued (net)	(104)	(66)
Contingent Consideration true up for business combination	(26)	57
Finance income	(500)	(323)
Dividend income	(96)	(103)
Fair value (gain)/loss on investments	(137)	(164)
Interest expense	106	28
Provision for expenses on employee stock options	2	10
Impairment of non-current investments	4	
Inventory written off net of Provision/(write back) for Inventory	155	132
Bad debts/assets written off net of Provision/(write back)	12	5
Mark-to-market (gain)/loss on derivative financial instruments	(23)	14
Cash Generated from operations before working capital changes	9473	8674
Adjustments for:		
(Increase)/decrease in Non-Current Assets	(16)	(64)
(Increase)/decrease in Current Assets	351	31
(Increase)/decrease in Inventories	(369)	(195)
Increase/(decrease) in Non-Current Liabilities	59	274
Increase/(decrease) in Current Liabilities	272	(307)
Cash generated from operations	9770	8413
Taxes paid (net of refunds)	(2465)	(2685)
Net cash (used in) / generated from operating activities - (A)	7305	5728
B CASH FLOW FROM INVESTING ACTIVITIES:		
Purchase of property, plant and equipment	(754)	(662)
Sale proceeds of property, plant and equipment	52	4
Purchase of Intangibles	(11)	(66)
Contingent Consideration paid on business combination	(30)	(13)
Purchase of current investments	(34074)	(70434)
Sale of current investments	35656	70761
Loans given to subsidiaries	(292)	(248)
Loans repaid by subsidiaries	257	283
Redemption/maturity of term deposits (having original maturity of more than 3 months)	5646	3997
Investment in term deposits (having original maturity of more than 3 months)	(4979)	(4297)
Interest received	359	308
Dividend received from subsidiaries	95	102
Dividend received from others	1	1
Net cash (used in) / generated from investing activities - (B)	1926	(264)
C. CASH FLOW FROM FINANCING ACTIVITIES:		
Dividends paid	(5196)	(4546)
Dividend distribution tax paid	(1048)	(913)
Principal Payment of lease liabilities	(352)	
Interest paid on lease liabilities	(74)	
Interest paid other than on lease liabilities	(6)	(3)
Proceeds from share allotment under employee stock options/performance share schemes	0	0
Net cash (used in)/generated financing activities - (C)	(6676)	(5462)
Net increase/(decrease) in cash and cash equivalents - (A+B+C)	2555	2
Add: Cash and cash equivalents at the beginning of the year	575	573
Cash and cash equivalents at the end of the year	3130	575

Source: https://www.hul.co.in/Images/annual-report-2019-20_tcm1255-552022_1_en.pdf

Interpretation:

HUL has generated cash flows from its operation worth ₹ 7305 crores in 2020 and ₹ 5728 crores in 2019. It implies HUL has earned high cash flows from its operations in 2020 relative to 2019.

HUL has generated cash flows from investing activities worth ₹ 1926 crore. The primary reasons behind the same are less purchase and sale of current investments in 2020 than 2019 and redemption of term deposits.

HUL has used cash in financing activities worth ₹ 6676 crores in 2020, comparatively higher than 2019, in which HUL has used cash in financing activities worth ₹ 5462. The reasons behind such use of cash in financing activities are payment of dividend, Dividend distribution tax, and lease liabilities.

Hence, HUL is inferred to be using cash earned from operations and from the sale of long-term investments or assets to pay down its lease payment, dividend, and dividend distribution tax in 2020. However, HUL uses cash generated from operations to buy Current assets under investing activities and pay down long-term debt, dividend, and dividend distribution tax in 2019.

Summary

- The cash flow statement indicates sources of cash inflows and transactions of cash outflows prepared for a period.
- It is an essential tool of financial analysis and is mandatory for all the listed companies.
- The cash flow statement indicates inflow and outflow in terms of three components: (1) Operating, (2) Financing, and (3) Investment activities.
- Cash inflows include cash receipt from customers, debtors, interest received, dividend received, proceeds from the sale of assets or investments, and raising of financial resources.
- Cash outflows include purchase lo assets or investments and redemption of financial resources.
- There are two methods of converting net profit into net cash flows from operating activities:
 - a) The direct method, and
 - b) Indirect method.

Keywords

Cash: Cash comprises cash on hand and demand deposits.

Cash Equivalents: Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value.

Cash flows: Cash flows are inflows and outflows of cash and cash equivalents.

Cash Flow Statement: The statement which indicates the flow (movement) of cash during a period.

Self-Assessment/Evaluation

1. and provides accounting rules and format of preparing & presenting cash flow statements.
 - a) AS 33 and Ind AS 7
 - b) AS 3 and Ind AS 7
 - c) AS 13 and Ind AS 7
 - d) AS 23 and Ind AS 17
2. are short-term, highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value.
 - a) Cash Equivalents
 - b) Cash
 - c) Cash and Cash Equivalents
 - d) Cash flows
3. "Proceeds from selling of goods and rendering services to customers" will be treated as following while preparing a cash flow statement.
 - a) Cash inflow from operating activities
 - b) Cash inflow from financing activities
 - c) Cash inflow from investing activities
 - d) Cash outflow from operating activities
4. "Purchase of property" will be treated as following while preparing a cash flow statement.

- a) Cash inflow from operating activities
 - b) Cash outflow from financing activities
 - c) Cash outflow from investing activities
 - d) Cash outflow from operating activities
5. "Redemption of preference shares" will be treated as following while preparing a cash flow statement.
- a) Cash inflow from investing activities
 - b) Cash outflow from financing activities
 - c) Cash outflow from investing activities
 - d) Cash outflow from operating activities
6. "Payment of dividends" will be treated as following while preparing a cash flow statement.
- a) Cash inflow from operating activities
 - b) Cash outflow from financing activities
 - c) Cash outflow from investing activities
 - d) Cash outflow from operating activities
7. "Receipt from Interest" will be treated as following while preparing a cash flow statement.
- a) Cash inflow from operating activities
 - b) Cash inflow from financing activities
 - c) Cash inflow from investing activities
 - d) Cash outflow from financing activities
8. The closing stock of Hyundai Ltd was ₹ 1,50,000 as of March 31, 2020, and it decreased to ₹ 70,000 as of March 31, 2021. In the cash flow statement of Hyundai Ltd for the year ending 2021, such decrease in closing stock will be shown as:
- a) Cash inflow from operating activities by ₹ 80,000
 - b) Cash outflow from operating activities by ₹ 80,000
 - c) Cash inflow from investing activities by ₹ 80,000
 - d) Cash inflow from financing activities by ₹ 80,000
9. The debtors of Mahindra Ltd were ₹ 50,000 as of March 31, 2020, and they increased to ₹ 70,000 as of March 31, 2021. In the cash flow statement of Mahindra Ltd for the year ending 2021, such increase in debtors will be shown as:
- a) Cash inflow from operating activities by ₹ 20,000
 - b) Cash outflow from operating activities by ₹ 20,000
 - c) Cash inflow from operating activities by ₹ 70,000
 - d) Cash outflow from operating activities by ₹ 70,000
10. Raymond mills Ltd. sold its one of old machinery at ₹ 6,70,000 as of December 15, 2020. How will such a sale be shown in the cash flow statement of Raymond mills Ltd. for the year ending March 31, 2021?
- a) Cash inflow from operating activities
 - b) Cash inflow from investing activities
 - c) Cash inflow from financing activities
 - d) Will not be shown
11. If Tata motors' cash flow statement for the year ending March 31, 2021, is depicting cash inflows from its operating, investing, and financing activities. What can be inferred from such facts:
- a) Tata motors is a very liquid company, and it is possibly looking for an acquisition.

- b) Tata motors uses the cash flow generated from operations to buy fixed assets and pay down debt or pay owners.
- c) Tata motors uses cash earned from operations and the sale of fixed assets to pay down debt or pay owners.
- d) Tata motors is using cash from operations and from borrowings (or from owner investment) to expand.

12. If Amazon's cash flow statement for the year ending March 31, 2021, is depicting cash inflows from its operating and financing activities, cash outflows from its investing activities. What can be inferred from such facts:

- a) Amazon is a very liquid company, and it is possibly looking for an acquisition.
- b) Amazon uses cash flow generated from operations to buy fixed assets and pay down debt or pay owners.
- c) Amazon uses cash from operations and from the sale of fixed assets to pay down debt or pay owners.
- d) Amazon uses cash from operations and from borrowings (or from owner investment) to expand its business.

13. If Google's cash flow statement for the year ending March 31, 2021, is depicting cash inflows from its operating and investing activities, cash outflows from its financing activities. What can be inferred from such facts:

- a) Google is a very liquid company, and it is possibly looking for an acquisition.
- b) Google uses cash flow generated from operations to buy fixed assets and pay down debt or pay owners.
- c) Google uses cash from operations and from the sale of fixed assets to pay down debt or pay owners.
- d) Google uses cash from operations and from borrowings (or from owner investment) to expand its business.

14. If McDonald's cash flow statement for the year ending March 31, 2021, shows cash inflows from its investing and financing activities; cash outflows from its operating activities. What can be inferred from such facts:

- a) McDonald's uses cash flow generated from operations to buy fixed assets and pay down debt or pay owners.
- b) McDonald's uses cash from operations and from the sale of fixed assets to pay down debt or pay owners.
- c) McDonald's uses cash from operations and borrowings (or from owner investment) to expand its business.
- d) McDonald's operating cash flow problems are covered by selling fixed assets and borrowing or by shareholder contributions.

15. If SAIL's cash flow statement for the year ending March 31, 2021, shows cash outflows from its operating and investing activities; cash inflows from its financing activities. What can be inferred from such facts:

- a) SAIL uses cash from operations and from the sale of fixed assets to pay down debt or pay owners.
- b) SAIL uses cash from operations and from borrowings (or from owner investment) to expand its business.
- c) SAIL is growing rapidly but has shortfalls in cash flows from operations and from the purchase of fixed assets financed by long-term debt.

- d) SAIL's operating cash flow problems are covered by selling fixed assets and borrowing or by shareholder contributions.

Review Questions

1. Explain the purpose of preparing a cash flow statement.
2. Describe the components of a cash flow statement.
3. The comparative Balance Sheets of M/s Ram Brothers for the two years were as follows:

Liabilities	March 31		Assets	March 31	
	2018	2019		2018	2019
Loan from SBI		50,000	Cash	40,000	50,000
Bills Payable	1,00,000	80,000	Debtors	1,40,000	1,60,000
Creditors	1,80,000	2,00,000	Stock	1,00,000	90,000
Loan from Bank	3,20,000	2,00,000	Machinery	4,00,000	2,80,000
Capital	3,00,000	3,50,000	Land & Building	2,20,000	3,00,000
	9,00,000	8,80,000		9,00,000	8,80,000

Additional Information:

- (a) Net profit for the year 2019 amounted to ₹ 1,20,000.
 - (b) During the year, a machine costing ₹ 50,000 (accumulated depreciation ₹ 20,000) was sold for ₹ 26,000. The provision for depreciation against machinery as of March 31, 2018, was ₹ 1,00,000, and on March 31, 2019, ₹ 1,70,000.
- You are required to prepare a cash flow statement.
4. Digital World Ltd. supplies you the following balance on March 31, 2015, and 2016.

Liabilities	March 31		Assets	March 31	
	2015	2016		2015	2016
Reserves	20,080	21,120	Goodwill	20,000	10,000
Provisions for debts	1,400	1,600	Land	40,000	60,000
Bills Payable	20,720	23,680	Stock	98,400	85,400
Debentures	24,000	12,000	Debtors	29,800	35,400
Share Capital	1,40,000	1,48,000	Cash at Bank	18,000	15,600
	2,06,200	2,06,400		2,06,200	2,06,400

Additional Information:

- (a) Dividends amounting to ₹ 7,000 were paid during the year 2016.
 - (b) Land was purchased for ₹ 20,000.
 - (c) ₹ 10,000 were written off on goodwill during the year.
 - (d) Bonds of ₹ 12,000 were paid during the year.
- You are required to prepare a cash flow statement.
5. Discuss the procedure of determining cash provided by operating activities. Give a suitable example to illustrate your answer.

6. Calculate cash flow from Investing Activities of Rudra Enterprise for the year 2018 from the following information:

Particulars	2017 (₹)	2018 (₹)
Land and Building	200000	250000
Furniture	100000	95000
Investments	400000	320000
Loan given to Textile Ltd.	200000	100000

Additional Information:

- Depreciation worth ₹ 5000 is provided on furniture
- Interest received from Textile Ltd. ₹ 3000
- Dividend paid ₹ 5000

Answer: Self-Assessment

1	B	2	A	3	A	4	c	5	B
6	A	7	c	8	A	9	b	10	B
11	A	12	d	13	C	14	d	15	C

Further Reading



Books

Management Accounting by Khan M.Y And Jain P.K, Mcgraw Hill Education

Financial Accounting for Management by Shah Paresh, Oxford University Press

A Textbook of Accounting for Management by Maheshwari. S.N, Maheshwari Sharad. K, Maheshwari Suneel. K, Vikas Publishing House

Financial Accounting for Management: An Analytical Perspective by Gupta Ambrish, Pearson Education India

Financial Accounting by Goyal V.K, Excel Books, New Delhi

Accounting & Finance for Managers by Pandikumar M.P, Excel Books, New Delhi



Online Links

<https://www.edupristine.com/blog/understand-interpret-cash-flow-statement#:~:text=A%20cash%20flow%20statement%20finds,in%20a%20cash%20flow%20statement>

<https://infimoney.com/cash-flow-statement-analysis/>

<https://www.wallstreetmojo.com/cash-flow-analysis/>

<https://ncert.nic.in/textbook/pdf/leac206.pdf>

Unit 07: Basic aspects of Cost Accounting

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- 7.3 Purpose of Cost Accounting
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- 7.6 Difference between Cost Control and Cost Reduction
- 7.7 Basis of Cost Classification
- 7.8 Preparation of Cost Sheet
- 7.9 Preparation of Estimated Cost Sheet

Summary

Keywords

Self-Assessment/Evaluation

Review Questions

Further Reading

Objectives

After studying this unit, you will be able to:

- illustrate the meaning of cost, expense, and loss.
- explain the meaning and importance of Cost Accounting.
- identify and explain the various types of costs that a company can incur for producing a product or rendering the service.
- measure the prime cost, work cost, production cost, cost of goods sold, and cost of sales that a company is incurring to produce a product or render a service.
- assess the profit/loss per unit a company earns/incurs by selling a product or rendering a service.
- comment on cost elements of a company's cost sheet.
- compose an estimated cost sheet from provided information to determine the estimated cost, profit/loss, or selling price per product/service.

Introduction

Cost accounting is the classification, recording, and appropriate allocation of the various cost incurred for producing the products or rendering of the services and the suitable presentation of data for control and management purposes. Cost accounting typically includes the cost of a job, contract, batch, process, etc. It usually illustrates the organization's cost components such as production cost,

administration cost, selling cost, and distribution cost. The cost accounting reveals the amount of costs relevant to the product or service. It establishes the ways and means to control cost through budgets and standard cost to maintain a firm's profitability. Thus, Budgetary Control, Standard costing, Cost-Volume-Profit analysis, Process costing, and Job costing are the most significant techniques through which cost ascertainment, control and reduction functions are performed by cost accountant. The cost accounting system is not independent of the financial accounts. It merely represents an elaboration of the primary financial accounting system.

In the present unit, key cost related concepts, meaning, objectives & function of cost accounting, types of cost, preparation of cost sheet and estimated cost sheet is discussed.

7.1 Important Cost concepts

Let's discuss some following essential concepts before discussing the meaning of Cost accounting.

Concept of "Cost"

Cost is defined as the amount of expenditure (actual or notional) incurred or attributable to specified things or activities.

"Cost is the cash, and cash equivalent value sacrificed for goods and services that are expected to bring a current or future benefit to the organization." --- (Hansen and Mowen)

"A cost is the value of economic resources used as a result of producing or doing the things costed." ---- (W M Harper)

Expense

It is an expired cost resulting from a productive usage of an asset. Expenses are costs that have been applied against revenue of a particular accounting period as per the principle of matching cost to revenue.



Examples: Cost of goods sold, office salaries of the period in which they are incurred.

Loss

It represents diminution in ownership equity other than from withdrawal of capital for which no compensating value has been received, e.g., destruction of property by fire.

Cost Centre

It is a location, person, or item of equipment (or group of these) for which costs may be ascertained and used for the purpose of control." --- (CIMA)

Thus, a cost centre refers to a section of the business to which costs can be charged.



Notes

- Cost centres are primarily of two types: Personal cost centre and Impersonal cost centre.
- Cost centres can be a Location such as a department, sales area, welding dept, finishing shop.
- Cost centres can be an item of equipment (a machine, a delivery van), and
- Cost centres can be a person (salesman, machine operator)
- Impersonal cost centre – can be production cost centre, service cost centre

Cost Unit

It is a unit of product, service, or time-related to which cost may be ascertained or expressed.

--- (CIMA)

Cost units are the "things" that the business is set up to provide, of which cost is ascertained.



Examples: For a sugar mill, cost per tonne of sugar is ascertained,

- For textile---cost per metre,
- For nursing home – bed per day,
- For electricity---kilowatt-hour
- For transport----passenger-km, and so on

Cost Object

It may be defined as "anything for which a separate measurement of the cost may be desired."



Examples: Product – Car, Television, Fan.

- Service – Taxi Service, Electricity
- Process – Weaving process in Textile mill, welding process in a steel mill
- Activity – Procurement of Raw materials, Development of website

Department – Personnel department, Production department

7.2 Meaning and Definition of Cost Accounting

Cost accounting provides detailed cost information to various levels of management for the efficient performance of their functions. The information supplied by cost accounting acts as a management tool for making optimum use of scarce resources and ultimately adds to the business's profitability.

Definition of Cost Accounting

The Chartered Institute of Management Accountants in England (CIMA) has defined Cost Accounting as,

'the process of accounting for cost from the point at which expenditure is incurred or committed to the establishment of its ultimate relationship with cost centres and cost units. In its widest usage, it embraces the preparations of statistical data, the application of cost control methods, and the ascertainment of the profitability of activities carried or planned'.

7.3 Purpose of Cost Accounting

Cost accounting mainly consists of principles and rules which are used for determining:

- the cost of manufacturing a product, e.g., motor car, furniture, chemical, steel, paper, etc., and
- the cost of providing a service, e.g., electricity, transport, education, etc.

7.4 Users of Cost Accounting

Cost accounting information is mainly for internal use, i.e., for management.

It is not to be provided to external parties such as shareholders, creditors, potential investors, etc. Neither do outsiders claim this information, except government agencies, to whom cost information may have to be submitted.

7.5 Objectives and Functions of Cost Accounting

The following are the primary objectives of Cost accounting.

- Ascertainment of Cost
- Cost Control
- Cost Reduction
- Determining the selling price
- Ascertainment of Profit
- Guide to Business policy
- Measuring and improving performance

7.6 Difference between Cost Control and Cost Reduction

Basis for Comparison	Cost Control	Cost Reduction
Meaning	A technique used for maintaining the costs as per the set standards is known as Cost Control.	A technique used to economize the unit cost without lowering the quality of the product is known as Cost Reduction.
Savings in	Total Cost	Cost Per Unit
Retention of Quality	Not Guaranteed	Guaranteed
Nature	Temporary	Permanent
Emphasis	Past and Present Cost	Present and Future Cost
Ends when	The pre-determined target is achieved	No end
Type of Function	Preventive	Corrective

Source: Author

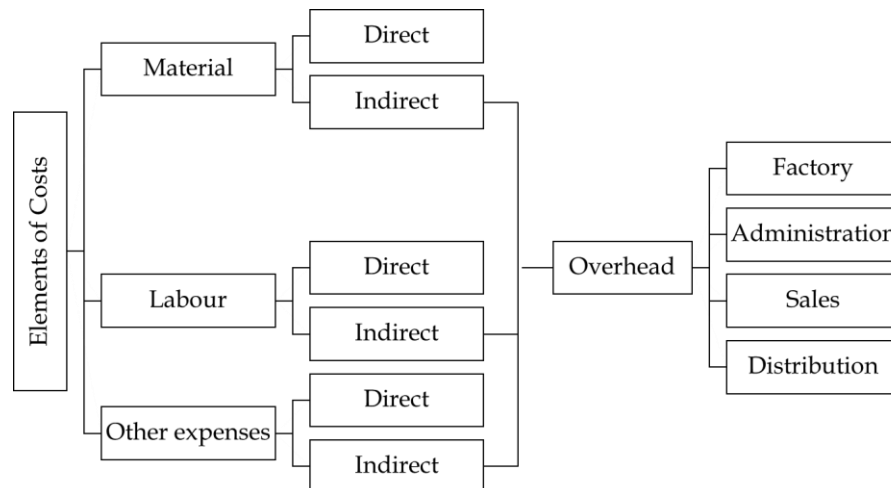
7.7 Basis of Cost Classification

Cost can be classified into various types based on the following:

1. Element
2. Degree of Traceability
3. Cost Behavior
4. Function
5. Control
6. Decision making
7. Degree of Association with the product

1. On the basis of 'Element' of Cost

The following figure is depicting the classification of cost based on its elements.



Source: Author



Notes

Direct Material

Materials that can be conveniently identified with and allocated to cost units and physically incorporated in the finished product are called direct materials.

Sometimes material forms a part of the finished product, yet it is not treated as direct material like nails in furniture. Because the value of such materials is too small, and it's futile to measure.



Examples: Timber in a furniture company, Cotton in the textile industry, Leather in a shoemaking company, and Rubber in a tire factory.

Indirect Materials

The materials used in the production process but are not directly traceable to a product or job are indirect materials.



Examples: Gloves, Tools, Masks, Sanitizers, Helmets, Cleaning supplies, Office chairs, and Desks, etc.

Direct labor

The labor involved in the production of the product is called Direct Labor. It is labor that can be identified directly with a unit of the finished product. All the labor charges expended in altering the construction, composition, confirmation, or condition of the product are included. It includes the payment of direct wages made to the following groups of direct labor:

- (a) Direct labor that is engaged in the actual production of the product.
- (b) Direct labor that is engaged in adding value in manufacturing a product through supervision, maintenance and tool setting, etc.
- (c) Inspectors, analysts, etc. especially required for such production.



Examples:

Assembly line workers, Machine operators, Factory Workers, Engineers, Quality Control, Raw material delivery workers, etc.

Indirect Labor

Workers who are not directly involved in converting raw materials into finished goods are termed Indirect Labor.



Examples: Accountants, Sales personnel, Maintenance personnel, Administrative employees & assistants, Marketing personnel, etc.

Direct expenses

All the expenses incurred by the company in the manufacturing of the product are termed Direct expenses.



Examples:

- Custom duty paid for importing the raw material from the US to the factory site in India.
- Carriage inwards paid for transporting the raw material from different states to the factory site.
- Fuel, heating, lighting expenses, and factory electricity expenses are incurred in manufacturing a product.

Indirect expenses

Indirect expenses are incurred to operate a business as a whole and cannot be directly related to a specific product or service.



Examples: Rent, Rates, Taxes, Insurance, Maintenance, Depreciation, etc.

2. On the basis of 'Degree of traceability' to product

Cost is classified as Direct cost and Indirect cost based on the degree of traceability.

Direct cost

Direct cost is related to the particular cost object and can be traced to it in an economically feasible way. Direct cost involves Direct materials cost, direct labor costs, and direct expenses.



Examples: Wood is a primary raw material for wooden furniture, and Cotton is a primary raw material for yarn production.

Indirect cost

Indirect cost is related to the number of cost objects but cannot be traced to it in an economically feasible way. Indirect cost involves indirect materials cost, indirect labor costs, and indirect expenses.

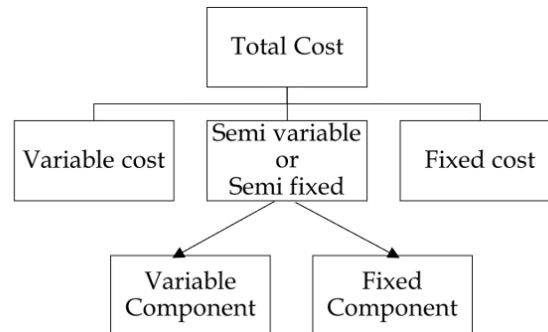


Examples:

- The thread used for tailoring the shirt is an indirect cost as it cannot be measured or quantified in specific length and ascertained the cost.
- Cost of supervisor, cost of the inspectors, and so on.
- Rent of the factory, salesmen salary and so on.

3. On basis of cost 'behavior'

The following figure is depicting the segregation of cost based on its behavior.



Source: Author

Fixed Costs

- Fixed costs do not change in relation to the number of units produced.
- Total Fixed cost remains 'constant' in proportion to changes in the number of units produced.
- The per-unit fixed cost changes and become smaller as the number of units produced increases.



Examples: Rent, advertising, insurance, depreciation, salaries, etc.

Variable Costs

- It changes in direct proportion to the level of production.
- Total variable cost increase when more units are produced and
- Total variable cost decreases when fewer units are produced.



Examples: Direct material, direct labor, direct expenses, etc.

Semi-variable Costs

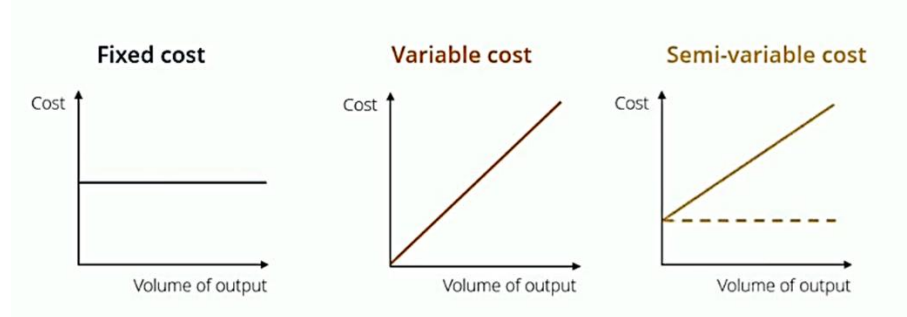
Semi-variable costs which remain constant up to a certain level of output and after which they become variable. It is a mixture of both fixed costs and variable costs.



Examples: Salesmen's Salary, Electricity charges, telephone charges.

Graphical Presentation

The following is the graphical presentation of Fixed cost, Variable cost, and Semi-variable cost.



Source: <https://images.app.goo.gl/4U69of1eX2ZKv5Nu9>

4. On the basis of 'Function'

Based on function, a cost is further classified as follows:

a) Production cost

It refers to the costs concerned with production activity. From the supply of material to the primary packing of the product, production covers all.

It includes direct material, direct expenses, direct labor, and manufacturing expenses.

b) Administration cost

It is also called the office cost; it incurs while administrative functions of the organization are carried.



Examples: Salaries to employees, Office rent, Stationery charges, etc.

c) Selling and Distribution cost

Selling and Distribution cost refers to the cost of maintenance and creation of demand for the product and making them available in the customers' hands.

5. On the basis of 'Control'

Cost is classified as controllable costs and uncontrollable costs based on control.

a) Controllable costs

These are the costs that can be controlled, as in changed or altered by the action of an individual or a specific manager.



Deciding on how supplies are ordered or the payroll for a manufacturing company would be controllable but not necessarily avoidable

b) Uncontrollable costs

Anyone's actions do not influence these costs. These are unchangeable.



Examples: Rent, Insurance, etc.

6. On the basis of 'Managerial Decisions'

The cost is classified as the following costs based on managerial decisions.

a) Opportunity Costs

Opportunity cost is the potential benefit that is given up when one alternative is selected over another.



Example: When you decide to pursue a college degree, your opportunity cost would include a 4-year's potential earnings foregone.



Nike Inc. has limited production capacity. What would be Nike's opportunity cost of accepting a special order from the military for combat boots?

If Nike accepts the special order, they may not be able to produce enough products for other sales. So, Nike would lose the profit from the other sale.

b) Sunk Costs

Sunk costs have already been incurred and cannot be changed now or in the future. They should be ignored when making decisions.



Example: You bought an automobile that cost ₹10,000 two years ago. The ₹ 10,000 cost is sunk because whether you drive it, park it, trade it, or sell it, you cannot change the ₹ 10,000 cost.

c) Marginal Costs

The increase or decrease in the total cost of a production run for making one additional unit of an item.

d) Imputed Costs

It is also known as 'implicit costs' or 'hidden costs'. When an asset is used for a 'particular use' rather than for alternative use, it is incurred.



Imputed costs are not reported in financial statements as they do not involve cash outlay.



Example: If the company uses its own building for production purposes, it will lose income from renting it to a third party.

e) Differential cost

Differential costs are the increase or decrease in total costs resulting from producing additional or fewer units or adopting an alternative course of action.

f) Incremental cost

The incremental cost is the extra cost associated with manufacturing one additional unit of production. It can be helpful when formulating the price to charge a customer as part of a one-time deal to sell additional units. For example, it can be of interest to determine the incremental change in cost when:

- A person's employment is terminated
- A production line is shut down
- A distribution center is closed
- A subsidiary is sold off

g) Out of Pocket Cost (Explicit cost)

Out of Pocket cost is the cost that involves cash outlay, that is, payment of cash.

Out-of-pocket costs refer to expenses incurred by employees that require a cash payment. The employer typically reimburses employees for these costs through an expense reporting and check payment system.

h) Replacement cost

Replacement cost is the amount of money required to replace an existing asset with an equally valued or similar asset at the current market price. In other words, it is the cost of purchasing a substitute asset for the current asset being used by a company.

7. On the basis of "Degree of Association with the product"

Cost is classified as product cost and period cost based on the degree of association with the product.

a) Product Cost

The cost which is directly related to the buying and selling of the merchandise is known as Product Cost. These costs are associated with the procurement and conversion of raw material to finished goods ready for sale.

Simply put, the cost which is a part of the cost of production is product cost. These costs can be apportioned to products.



Example: Material cost, Labor Cost, etc.

b) Period Cost

The cost which cannot be allocated to the product but belongs to a particular period is known as Period Cost. These costs are charged against the sales revenue for the accounting period in which they take place.



Example: Interest, salary, rent, advertisement, commission to the salesman, depreciation of office assets, audit fees, etc.

7.8 Preparation of Cost Sheet

A cost sheet is a document that provides for the assembly of an estimated detailed cost in respect of cost centers and cost units. It analyzes and classifies in a tabular form the expenses on different items for a particular period. Additional columns may also be provided to show the cost of a specific unit pertaining to each item of expenditure and the total per-unit cost.

The cost sheet may be prepared based on actual data (historical cost sheet) or the basis of estimated data (estimated cost sheet), depending on the technique employed and the purpose to be achieved.

To find out the unit cost of the product, profit margin per product, or to fix the selling price of a product, the statement of cost plays a pivotal role in determining the cost of production, cost of goods sold, cost of sales, and selling price of the product at every stage.

Format of Cost Sheet

The following is the format of a cost sheet.

Particulars	Total Cost	Cost Per Unit
	₹	₹
Opening Stock of Direct Raw Materials	XXX	
Add: Purchases	XXX	
Add: Carriage Inward and other expenses on Purchases	XXX	
Add: Octroi and Custom Duty	XXX	
Less: Closing Stock of Direct Raw Materials	(XXX)	
Cost of Direct/Raw Material Consumed	XXX	
Add: Direct or Productive Wages	XXX	
Add: Direct or Chargeable Expenses	XXX	
Prime Cost	XXX	XXX

Add: Works or Factory Overheads		
Indirect Materials	XXX	
Indirect Wages	XXX	
Leave Wages	XXX	
Overtime Premium	XXX	
Fuel and Power	XXX	
Coal	XXX	
Factory Rent and Taxes	XXX	
Insurance	XXX	
Factory Lighting	XXX	
Supervision	XXX	
Works Stationery	XXX	
Canteen and Welfare Expenses	XXX	
Repairs	XXX	
Works Salaries	XXX	
Depreciation of Plant & Machinery	XXX	
Works Expenses	XXX	
Gas and Water	XXX	
Drawing Office Salaries	XXX	
Technical Director's Fees	XXX	
Laboratory Expenses	XXX	
Works Telephone Expenses	XXX	
Internal Transport Expenses	XXX	
Less: Sale of Scrap	(XXX)	
Add: Opening Stock of Work-in-progress	XXX	
Less: Closing Stock of Work-in-progress	(XXX)	
Works Cost	XXX	XXX
Add: Office and Administrative Overheads		
Office Salaries	XXX	
Director's Fees	XXX	
Office Rent and Rates	XXX	
Office Stationary and Printing	XXX	
Sundry Office Expenses	XXX	
Depreciation and Repairs of Office Equipment	XXX	
Depreciation of Office Furniture	XXX	
Subscription to Trade Journals	XXX	
Office Lighting	XXX	
Establishment Charges	XXX	
Director's Travelling Expenses	XXX	
Postage	XXX	
Legal Fees	XXX	
Audit Fees	XXX	
Cost of Production	XXX	XXX
Add: Opening Stock of Finished Goods	XXX	
Less: Closing Stock of Finished Goods	(XXX)	
Cost of Goods Sold	XXX	XXX

Add: Selling and Distribution Overheads:		
Advertising	XXX	
Showroom Expenses	XXX	
Bad Debts	XXX	
Salesmen's Salaries and Expenses	XXX	
Packing Expenses	XXX	
Carriage Outward	XXX	
Commision of Sales Agents	XXX	
Cost of Catalogues	XXX	
Expenses of Delivery Vans	XXX	
Collection Charges	XXX	
Traveling Expenses	XXX	
Cost of Tenders	XXX	
Warehouses Expenses	XXX	
Cost of Mailing Literature	XXX	
Sales Managers's Salaries	XXX	
Sales Office Expenses	XXX	
Depreciation and Repairs of Delivery Vans	XXX	
Expenses of Sales Branches	XXX	
Cost of Sales (or Total Cost)	XXX	XXX
Profit		XXX
Sales		XXX

Items excluded from Cost at times of preparing cost sheet

The following items are financial by nature and thus not included while preparing a cost sheet as these following items form part of financial statements.

- Cash discount
- Interest paid
- Preliminary expenses written off
- Goodwill written off
- Provisions
- Transfer to reserves
- Donations
- Income-tax paid
- Profit/loss on sale of Non-current assets
- Damage payable at law, etc.



Example: The Bangalore Ltd. supplies you with the following information and requires you to prepare a cost sheet

Particulars	₹	Particulars	₹
Stock of raw materials on 1st Sept., 2020	75,000	Depreciation of plant and machinery	3,500
Stock of raw materials on 30th Sept., 2020	91,500	Expenses on purchases	1,500
Direct wages	52,500	Carriage outward	2,500
Indirect wages	2,750	Advertising	3,500
Sales	2,00,000	Office rent and taxes	2,500
Work-in-progress on 1st Sept., 2020	28,000	Travellers' wages and commission	6,500
Work-in-progress on 30th Sept., 2020	35,000	Stock of finished goods on 1st Sept., 2020	54,000
Purchases of raw materials	66,000	Stock of finished goods on 30th Sept., 2020	31,000
Factory rent, rates and power	15,000		

Solution:

Cost Sheet for the month ending 30th September 2020

Particulars	Details	Amount
	₹	₹
Stock of raw materials on 1st Sept., 2020	75000	
Purchases of raw materials	66000	
Expenses on purchases	1500	
Stock of raw materials on 30th Sept., 2020	(91500)	
Cost of Raw Material Consumed	51000	
Direct wages	52500	
Prime Cost	103500	103500
Works/Factory Overheads		
Indirect wages	2750	
Factory rent, rates and power	15000	
Depreciation of plant and machinery	3500	
Work-in-progress on 1st Sept., 2020	28000	
Work-in-progress on 30th Sept., 2020	(35000)	
Total Works overheads	14250	
Works Cost	117750	117750
Office and Administration Overheads		
Office rent and taxes	2500	
Cost of Production	120250	120250
Opening Stock of Finished goods	54000	
Closing stock of Finished goods	(31000)	
Cost of Goods sold	143250	143250
Sales and Distribution Overheads		
Carriage outward	2500	
Advertising	3500	
Travellers' wages and commission	6500	
Cost of Sales/ Total Cost	155750	155750
Profit	44250	44250
Sales	2,00,000	2,00,000



Task:

Mr. Zia furnishes the following data related to the manufacture of a standard product during August 2020

Raw material consumed	₹ 15,000
Direct labour	₹ 9,000
Machine hours worked	900 hrs.
Machine hour rate	₹ 5
Administration overheads	20% of works cost
Selling overheads	₹ 0.50 per unit
Unit produced	17,100
Unit sold	16,000 @ ₹ 4 per unit

You are required to prepare a cost sheet from the above, showing the cost per unit, cost per unit

sold, and profit for the period.

7.9 Preparation of Estimated Cost Sheet



Example: Following are the particulars for the production of 800 waterproofs of K Waterproofs Manufactures Ltd. for the year ending 31st March 2020:

Cost of Material ₹ 32,000

Direct wages ₹ 48,000

Manufacturing charges ₹ 20,000

Office Salaries ₹ 24,000

Rent and Taxes ₹ 4,000

Selling expenses ₹ 8,000,

General expenses ₹ 12,000

Sales ₹ 1,60,000.

Following estimates were made by the costing department of the company for the year ending 31st March 2021:

- The output and sales will be 1,000 waterproofs.
- The price of material will rise by 25% on the previous year's level.
- Wages during the year will rise by 12.5%.
- Manufacturing cost will rise in proportion to the combined cost of material and wages.
- Selling cost per unit will remain unchanged.
- Other expenses will remain unaffected by the rise in output.

From the above information, prepare the cost statement showing the price at which the waterproofs would be marked to show a profit of 12.5% on the selling price.

Solution:

Cost Sheet				
Particulars	Output 800		Output 1000	
	Per unit	Amount	Per unit	Amount
	₹	₹	₹	₹
Materials	40	32000	50	50000
Direct Wages	60	48000	67.5	67500
Prime Cost	100	80000	117.5	117500
Manufacturing Expenses (25% of Prime Cost)	25	20000	29.375	29375
Works Cost	125	100000	146.875	146875
Office Salaries	30	24000	24	24000
Rent and Rates	5	4000	4	4000
General Expenses	15	12000	12	12000
Cost of Production	175	140000	186.875	186875
Selling Expenses (₹8000/800=₹10)	10	8000	10	10000
Cost of Sales	185	148000	196.875	196875
Profit 12.5% (196.875*12.5/87.5)	15	12000	28.125	28125
Sales/Selling Price	200	160000	225	225000



Task:

From the following particulars, prepare the cost and profit statement of Popular Stoves Manufacturing Co. for the year 2018:

	₹		₹
Stock of material as on 1-1-2018	35,000	Establishment expenses	10,000
Stock of material as on 31-12-2018	4,900	Completed stock as on 1-1-2018	nil
Purchases of material	2,500	Completed stock as on 31-12-2018	35,000
Direct wages	95,000	Sales	1,89,000
Factory expenses	17,500		

The number of stoves manufactured during the year 2018 was 4,000. The company wants to quote for a contract for the supply of 1,000 electric stoves during the year 2019. The stoves to be quoted are of uniform quality and make and similar to those manufactured in the previous year, but the cost of material has been increased by 15% and the cost of factory labor by 10%.

Prepare the statement showing the price to be quoted to give the same percentage of net profit on turnover as was realized during the previous year 2018, assuming the cost per unit of overheads will remain the same as in the last year.

Summary

- Cost is defined as the amount of expenditure (actual or notional) incurred or attributable to specified things or activities.
- In brief, the cost is nothing but the total of all expenses incurred for manufacturing a product or attributable to a given cost object.
- Costs can be classified into different types based on various parameters such as function, period, traceability, managerial decision, etc.
- Costs that cannot be controlled are known as uncontrollable costs.
- Costs that can be controlled are known as controllable costs.
- It isn't easy to control all fixed costs incurred by a company to make a product or render a service.
- Direct cost is related to the particular cost object and can be traced to it in an economically feasible way. Direct cost involves Direct materials cost, direct labor costs, and direct expenses.
- Indirect cost is related to the number of cost objects but cannot be traced to it in an economically feasible way.
- Materials that can be conveniently identified with and allocated to cost units and physically incorporated in the finished product are called direct materials.
- Direct labor is the labor cost, which is directly involved in producing either a product or service.
- Indirect expenses are the expenses other than that of the direct expenses in the production of a product.
- The expenses which are not directly part of the production process of a product or service known as indirect expenses.

Keywords

Cost Centre: The location at where the cost of the activity is ascertained.

Cost of Production: It is the combination of the cost of manufacturing an article or a product and administrative cost.

Cost of Sales: It is the entire cost of a product.

Cost Sheet: It is a statement prepared for the computation of the cost of a product/service.

Cost: Cost is defined as the amount of expenditure (actual or notional) incurred or attributable to specified things or activities.

Direct Cost: It is the cost that can be readily ascertained and measured for a product.

Factory Cost: It is the total cost incurred both direct and indirect at the work spot during the production of an article.

Indirect Cost: Cost incurred cannot be easily ascertained and measured for a product.

Prime Cost: Combination of all direct costs viz. Direct materials, direct labor, and direct expenses.

Selling Price or Sales: The summation of cost of sales and profit margin.

Self-Assessment/Evaluation

1. is the cash and cash equivalent value sacrificed for goods and services expected to bring a current or future benefit to the organization.

2. "Destruction of property by fire" is an example of:

- a) Cost
- b) Expense
- c) Loss
- d) Revenue

3. Which of the following is shown as an asset in the Balance Sheet?

- a) Expired cost
- b) Unexpired cost
- c) Expense
- d) Loss

4. Cost accounting information is mainly available to and used by:

- a) Internal management
- b) Creditors
- c) Potential investors
- d) External parties

5. A technique used to economize the unit cost without lowering the quality of the product is known as

- a) Cost accounting
- b) Cost control
- c) Cost reduction
- d) All of above

6. Star Loafs manufactures two types of bread sold as wholesale products to various specialty retail bakeries. Each loaf of bread requires a three-step process, viz. Mixing, Baking, and Finishing. For Star Loafs, "Flour" will be:

- a) Direct variable cost
- b) Direct fixed cost
- c) Indirect variable cost
- d) Indirect fixed cost

7. Pizza Hut offers ten types of Pizza. It uses five different kinds of ovens for baking Pizzas to meet the high demand for Pizzas at its place. For Pizza Hut, "Depreciation on Ovens" will be:

- a) Controllable Cost
- b) Uncontrollable Cost
- c) Opportunity Cost
- d) Marginal Cost

8. At the Hugs ice cream parlor, you have to choose between "Sandy Road" and "Rocky Thrones," the two specialized flavors of Hugs due to less money in hand. When you select "Sandy Road," the enjoyment that you can get by eating "Rocky Thrones" ice cream will be:

- a) Imputed cost
- b) Out of Pocket cost
- c) Opportunity cost
- d) Sunk Cost

9. The cost which remains constant in totality for various level of output but changes unit wise indirectly with changes in the level of output is known as:

- a) Fixed Cost
- b) Variable Cost
- c) Semi-Variable Cost
- d) Direct Cost

10. Pizza Hut, Jalandhar offers an exciting menu consisting of its signature pizzas, appetizers, pastas, desserts, and beverages. It is using 20 delivery bikes for quick and safe delivery of orders at customers' locations. For Pizza Hut, "Depreciation on delivery bikes" will be:

- a) Variable cost
- b) Fixed cost
- c) Direct cost
- d) Marginal cost

11. Rudra, manager at Kala Kriti, a designer boutique, has got an order to stitch a designer Lehenga of silk fabric. When the Lehenga was ready, Rudra started analyzing the various cost components to stitch that Lehenga. He got to know that to stitch the Lehenga, 8 meters of silk cloth is used versus 6 meters set as a standard for such Lehenga. He asked the Mohit tailor for such deviation in the material used. Mohit informed Rudra that due to the wrong cutting of cloth, 2 meters of fabric got wasted.

In the above situation, which of the following function of cost accounting is Rudra performing?

- a) Cost control
- b) Cost reduction
- c) Cost determination
- d) Cost analysis

12. "Arvind Limited," a textile industry in Rajasthan, buys "Cotton" from Punjab. It has to pay "IGST" (a tax levied on all Inter-State supplies of goods and services in India under the GST regime). "Arvind Limited" spent ₹ 5,00,000 IGST on its purchases of Cotton from Punjab in 2020. The cost accountant is making a Cost sheet; suggest to him where he should add this ₹ 5,00,000 in Cost Sheet to calculate the Total Cost.

- a) In Raw Materials Purchase Cost
- b) In Works Overheads
- c) In Selling Overheads
- d) In-Office Overhead

13. "Sara textiles" pays ₹ 6,00,000 each month as wages to workers who actually work on "Knitting" and "cloth cutting" machines. The cost accountant is making the Cost sheet, suggest him this ₹ 6,00,000 should form part of which of the following.

- a) Works overhead
- b) Prime Cost
- c) Office Overhead
- d) Selling Overhead

14. During the COVID-19 pandemic, Blackberry focused on marketing via micro-blogs, Podcasts, Internet radio, TV, RSS, Pay-Per-Click, SEO, and email. Affiliate Marketing Blogs was also another online marketing medium used by Blackberry. It spent ₹ 3 crores on its marketing in 2020. Such marketing cost will form part of:

- a) Works overhead
- b) Prime Cost
- c) Administration Overhead
- d) Distribution Overhead

15. RedStar Safety is a subsidiary company of MSF Group, focusing entirely on industrial safety work-wear. It is a reputable manufacturer and exporter of work-wear fabric and clothing. It pays ₹ 1.5 Lakh as a monthly salary to its Chief Chartered Accountant. At times of preparing cost sheet, such salary will form part of:

- a) Works overhead
- b) Prime Cost
- c) Administration Overhead
- d) Distribution Overhead

16. Raymond Textile is incurring a Total Cost of ₹ 3,00,000 to produce 1000 meters of Jute Cloth. Calculate the Total Sales value that Bharat Textile should make to earn a profit of 20% on its Selling Price.

- a) ₹ 3,00,000
- b) ₹ 3,20,000
- c) ₹ 3,60,000
- d) ₹ 3,75,000

17. Calculate Prime cost from the following information: -

Opening stock of Raw Material ₹ 14,000, Raw Material Purchases ₹ 75,000, Carriage Inwards ₹ 5,000, Closing stock of Raw Material ₹ 22,000, Direct Wages ₹ 47,000

- a) ₹ 1,12,000
- b) ₹ 1,39,000
- c) ₹ 1,19,000
- d) ₹ 1,22,500

18. Calculate Cost of Production from the following information: -

Work Cost ₹ 30,000, Depreciation on Factory Building ₹ 5,000, Manager's Salary ₹ 25,000, Office Stationery ₹ 2,000, Depreciation on Office Building ₹ 3,000.

- a) ₹ 30,000
- b) ₹ 35,000
- c) ₹ 65,000
- d) ₹ 60,000

19. Calculate Cost of Sales from the following information: -

Cost of Production ₹ 42,000, Depreciation on Office Building ₹ 3,000, Sales agent's commission ₹ 6,000, Carriage outward ₹ 8,000.

- a) ₹ 42,000
- b) ₹ 46,000
- c) ₹ 59,000
- d) ₹ 56,000

20. Calculate Profit/Loss from the following information: -

Prime Cost ₹ 35,000, Work Cost ₹ 30,000, Cost of Production ₹ 42,000, Cost of Goods Sold ₹ 46,000, Cost of Sales ₹ 56,000, Total Sales ₹ 70,000.

- a) ₹ 14,000
- b) ₹ 24,000
- c) ₹ 40,000
- d) ₹ 28,000

Answer for Self-Assessment

1	Cost	2	c	3	b	4	a	5	C
6	A	7	b	8	c	9	a	10	B
11	A	12	a	13	b	14	d	15	C
16	D	17	c	18	d	19	d	20	A

Review Questions

1. What is meant by Cost accounting? Explain the objectives of cost accounting.
2. Differentiate between cost control and cost reduction.
3. Illustrate the concept of a cost sheet through an example.
4. Illustrate indirect and direct expenses with the help of an example.
5. Explain the types of cost based on any five bases.
6. Differentiate between direct costs and indirect costs with the help of an example.
7. Prepare a cost sheet showing sales from the following details:

Particulars	(₹)	Particulars	(₹)
Opening stock		Director's fees	15500
• Raw materials	35000	Bad debts	6000
• Work in progress	45000	Factory rent	4500
• Finished goods	30000	Cash Discount	3200
Closing stock		Dividend	6700
• Raw materials	22500	Counting house salary	2500
• Work in progress	40000	Selling expenses	17000
• Finished goods	28000	Repairs and maintenance	2500
Purchase of raw materials	100000	Profit	48000
Works overheads	32000	Warehouse expenses	2500
General expenses	17000	General manager's salary	10000
Donations	5000	Carriage inward	12400
Depreciation on Machinery	4500	Office rates and taxes	20000


8. Prepare a cost sheet showing sales from the following details:

Particulars	(₹)	Particulars	(₹)
Opening stock		Carriage outward	7500
• Raw materials	25000	Office rates and taxes	5000
• Finished goods	21500	Director's fees	12000
• Work in progress	31000	Bad debts	4500
Closing stock		Factory rent	9500
• Raw materials	20000	Drawing office salary	8000
• Finished goods	24500	Profit	40000
• Work in progress	28000	Warehouse expenses	24600
Purchase of raw materials	65000	Administration overheads	12500
Works expenses	18500	Depreciation of Plant	12300

9. Prepare the cost sheet to show the total cost of production and cost per unit of goods manufactured by a company for the month of Jan. 2020. Also find the cost of sale and profit.

Particulars	(₹)	Particulars	(₹)
Stock of raw materials 1.1.2020	6000	Factory rent and rates	6000
Raw materials procured	56000	Office rent	1000
Stock of raw material 31.1.2020	9000	General expenses	4000
Direct wages	14000	Discount on sales	600
Plant depreciation	3000	Advertisement expense	1200
Loss on the sale of plant	600	Income tax paid	2000
Sales	150000		

Further Reading

 Khan, M.Y., & Jain, P.K. (2017). Management Accounting, 7th Edition, McGraw Hill Education.

Shah, Paresh. (2019). Financial Accounting for Management, 3rd Edition, Oxford University Press.

Maheshwari, S.N., Maheshwari, Sharad. K., & Maheshwari, Suneel. K. (2018). A Textbook of Accounting for Management, 4th Edition, Vikas Publishing House.

Gupta, Ambrish. (2018). Financial Accounting for Management: An Analytical Perspective, 6th Edition, Pearson Education India.

Goyal, V.K. (2010). Financial Accounting, 3rd Edition, Excel Books, New Delhi.

Lanen, N. William., Anderson, W. Shannon., & Mather, W. Michael. (2010) Fundamentals of Cost Accounting, 3rd Edition, McGraw Hill Education.

Belverd E., Needles. Accounting for Decision Making, Cengage Learning.



<https://www.yourarticlelibrary.com/cost-accounting/cost-accounting-meaning-objectives-principles-and-objections/55218#:~:text=Objectives%20of%20cost%20accounting%20are,making%20and%20determination%20of%20break%2D>

<https://www.toppr.com/guides/fundamentals-of-accounting/fundamentals-of-cost-accounting/meaning-of-cost-costing-and-cost-accounting/>

<http://www.himpub.com/documents/Chapter1133.pdf>

<https://www.yourarticlelibrary.com/cost-accounting/problems-cost-accounting/top-14-cost-accounting-problems-with-solutions/75727>

https://www.dynamictutorialsandservices.org/2019/04/cost-sheet-solved-practical-problems-2_68.html

<https://ca-intermediate.in/wp-content/uploads/2018/08/Chapter-6-Cost-Sheet.pdf>

Unit 08: Budgetary Control

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Objectives

After studying this unit, you will be able to:

- explain the meaning and use of Budgets and Budgetary control.
- illustrate the steps involved in implementing Budgetary control in an organization.
- explain the various types of budget that a business entity can prepare.
- review the advantages and limitations of Budgetary control.
- assess closing balance of Cash at end of day, week, month or year through preparing cash budget.
- assess cost of a product/services, profit per product/service or selling price of a product/service at various levels of production through preparation of flexible budget.

Introduction

A Budget is a quantitative plan usually expressed in monetary terms. It covers a specified period of time such as a year, a quarter, month, week. A budget set for a year is known as Annual budget. Many companies denote to their annual budget as a profit plan since it depicts the planned activities that the company expects to undertake in its individual departments, segments, branches, so on for achieving its profit goals.

Budget assists in making and coordinating short-range plans. It acts as basis for evaluating the performance of divisions and their managers. It is a bench mark for controlling on-going activities of a company. It is a device for communicating these plans to the responsibility center managers.

Companies use budgets to coordinate and control the activities of its individual segments and overall activities. The process of using budgets to control business activities is known as Budgetary control. In this unit, meaning and types of budget, meaning of Budgetary control and its use, and Advantages & Limitations of Budgetary control is discussed.



Caution:

Under suitable condition, standard costing and budgetary control may go hand in hand and can harmonies and make the planning and control more effective.

8.1 Meaning and Definition of Budget

Meaning of Budget

A budget is a plan of action to achieve stated objectives based on predetermined series of related assumptions. It generally includes both financial and non-financial aspects of the plan, and it serves as a blueprint for the company to follow in an upcoming period.

Definition of Budget

“A plan quantified in monetary terms prepared and approved prior to a defined period of time, usually showing planned income to be generated and, expenditure to be incurred during the period and the capital to be employed to attain a given objective.”

- CIMA

“A budget is a formal quantitative expression of management plans”.

- Charles T. Horngren

Characteristics/ Elements of Budget

- **Plan:** Budget is an accounting plan that serves as forecasting and controlling device for a company.
- **Quantitative or Financial Terms:** Budget is a formal plan of action expressed in monetary terms such as Indian Rupee, US dollar, Pound, Japanese yen, etc. It is basically quantitative blue print for future course of action.
- **Operations and resources:** A firm’s operations and resources are planned through a mechanism called Budget. A budget should be able to accurately quantify the expenses to be incurred on goods or services incurred for earning revenues and the incomes & revenues to be realized from products/services. It should also cover the assets i.e., resources of the firm.
- **Specified future period:** As budget is plan so it is always prepared for a specified future period. Such specified period can be a year, quarter, semi-annual, month, or week depending upon the requirement of the company, department, division, or individual setting the budget.
- **Comprehensiveness:** A budget is comprehensive in itself as all the operations and activities of an organization are included in the budget. Budgets are prepared for individual division, segment, department, facet, project, activity of an organization. These departments, divisions, activities, segments are integrated into an overall budget for the entire organization. This overall budget is known as master budget.
- **Coordination:** The budget coordinates the various operational activities of an enterprise so as to take care of the problems and situations of each sub-part or component of an enterprise. The budgets for each of the components are prepared in harmony with each other to make budgets more effective and meaningful.



Do you know? **What is Budgeting?**

The act of preparing budgets is called Budgeting. It helps managers gather relevant information for improving future performance.

8.2 Meaning of Budgetary Control

Budgetary control contains two different processes one is the preparation of the budget and another one is the control of the prepared budget

“Budgetary control is the establishment of budgets relating to the responsibilities of executives of a policy and the continuous comparison of the actual with the budgeted results, either to secure by individual action, the objective of the policy or to provide a basis for its revision.”

-- CIMA

Need and Objectives of Budgetary Control

The following are the primary objectives of budgetary control:

- Planning
- Co-ordination
- Measurement of success
- Motivation
- Communication
- Control



Notes:

Planning: Detailed plans relating to raw-material requirements, production, labor needs, sales, capital additions, etc. are drawn out. In short, budgeting pushes the management to foresee and prepare for the anticipated conditions. Planning is a constant process since it requires constant revision with changing conditions.

Co-ordination: Budgeting helps managers in coordinating their efforts so that problems of the business are solved in harmony with the objectives of its divisions.

Measurement of success: Budgets present a useful means of informing managers how well they are performing in meeting targets they have previously helped to set.

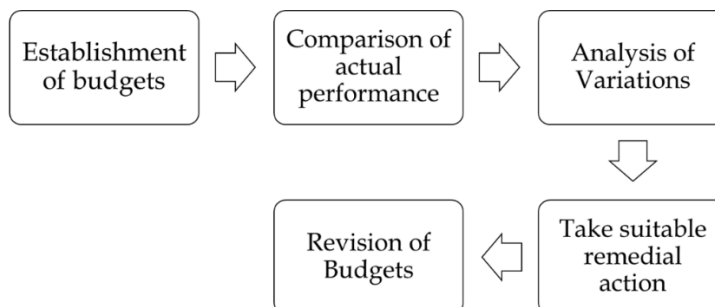
Motivation: Budget is always considered as useful tool for encouraging managers to complete things in line with the business objectives. If individuals have intensely participated in the preparation of budgets, it acts as a strong motivating force to achieve the goals.

Communication: A budget serves as a means of communicating information within a firm.

Control: Budgetary control is a very powerful tool in hand of management to control its activities.

Steps involved in implementing Budgetary Control

The following figure is depicting the steps involved in implementing budgetary control.



Source: Author

Advantages of Budgetary Control

The following are the key advantages of budgetary control.

- Efficiency
- Anticipation
- Coordination
- Maximization of profits
- Provides a yardstick



Notes:

Efficiency: Budgetary control increases the efficiency of the organization. As the management or the persons involved in various activities of the organization, they want to achieve their budgeted performance. Thus, they will be working with more efficiencies with minimum wastages of resources and time. Hence, they will be able to achieve the right results at right time.

Anticipation: As we know that budget is a plan, the managers are forecasting the best opportunities and the worst problems that they may confront with in coming future. Hence, in advance managers are preparing solutions for those unforeseen negative, or adverse situations.

Coordination: Budgetary control helps the managers to coordinate with each other, so that all managers and all key personnel of various departments will be able to achieve the goals of organization in harmony with each other.

Maximization of profits: Budgetary control assists the management to maximize the overall profits of the business as it renders all the activities to have been performed at right time, without incurring any wastages through gaining effectiveness and efficiency in various business operations.

Provides a yardstick: It provides a yardstick or tool against which the performance is being observed and compared. That is why, it acts as a yardstick for controlling the business activities.

Limitation of Budgetary Control

The following are the key limitations of budgetary control.

- Danger of Rigidity
- Expensive technique
- Budget is only a tool of management
- Creation of conflicts
- Does not ensure proper implementation



Notes:

Danger of Rigidity: It tends to bring about rigidity in operations, which is very harmful. For instance, when an employee has the capability to outperform the budgeted performance but he may not be motivated to go beyond achieving his budgeted performance as he knows that he would be answerable for the attainment of budgeted performance.

Expensive technique: It is beyond the capacity of small undertakings as the mechanism of budgetary control system is a detailed process involving too much of time and costs which generally micro and small enterprises cannot spend.

Budget is only a tool of management: Budgeting cannot take a position of management as it is only an instrument of the management.

Creation of conflicts: Sometimes budgetary control may produce conflicts among managers, as each of them tries to take credit of achievement of the budgeted targets.

Does not ensure proper implementation: Preparation of good budgets does not ensure their proper implementation. Hence, the whole purpose of budgetary control gets futile if the budgets are not implemented in right spirit with proper mechanism.

Essentials of Budgetary Control

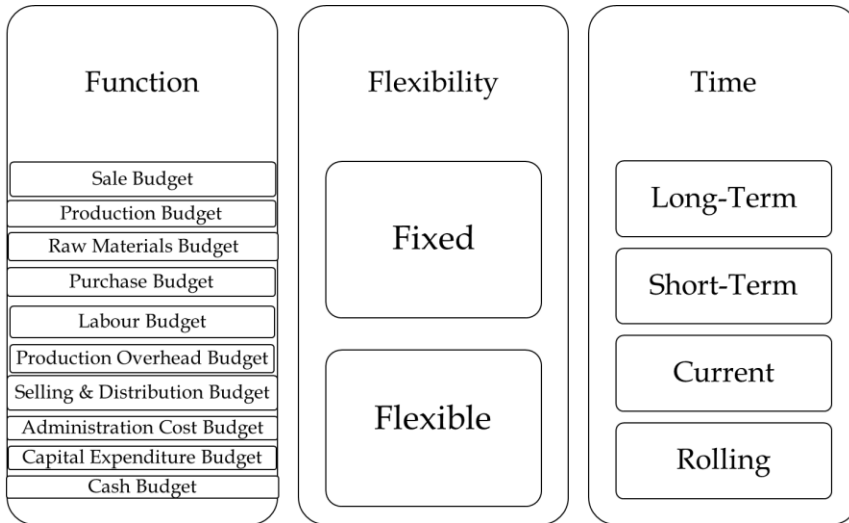
The following are key essentials of budgetary control.

- Support of top management
- Teamwork
- Realistic Objectives
- Excellent Reporting System
- Structure of Budget team

- Well defined Business Policies
- Integration with Standard Costing System
- Inspirational Approach

8.3 Classification/Types of Budget

On functional basis, the budgets can be classified into three categories as follows:



Notes:

Production Budget

The preparation of the production budget is mainly dependent on the sales budget. The ultimate aim of the production budget is to find out the volume of production to be made during the year based on the sale volume. It may be in terms of quantities, Kilograms in monetary terms and so on.

Materials/Purchase Budget

This budget takes place only after identifying the number of finished products expected to produce to the tune of production budget, in meeting the needs and demands of the customers and consumers during the season.

Sales Budget

Sales Budget is an estimate of anticipation of sales in the near future prepared by the responsible person for the sale of a product by considering the various factors of influence. Sales budget is usually prepared in terms of quantity and value.

Sales Overhead Budget

It is prepared by the sales manager who is responsible for the sales volume of the enterprise to increase through various devices/tools of sales promotion.

Labor Budget

This budget may be classified into labor requirement budget and labor recruitment budget. The labor requirements in the various job categories such as unskilled, semi-skilled and supervisory are determined with the help of all the head of the departments.

Selling and Distribution Budget

The Selling and Distribution Cost budget is estimating of the cost of selling, advertising, delivery of goods to customers etc. throughout the budget period. This budget is closely associated to sales budget in the logic that sales forecasts significantly influence the forecasts of these expenses.

Administration Cost Budget

This budget includes the administrative costs for non-manufacturing business activities like managing directors' salaries, director's fees, office lightings, air condition and heating etc. Most of these expenses are fixed so they should not be too difficult to forecast.

Capital-Expenditure Budget

This budget stands for the expenditure on all fixed assets for the duration of the budget period. This budget is normally prepared for a longer period than the other functional budgets.

Cash Budget

The cash budget is a sketch of the business estimated cash inflows and outflows over a specific period of time. Cash budget is one of the most important and one of the last to be prepared. It is a detailed projection of cash receipts from all sources and cash payments for all purposes and the resultant cash balance during the budget.

Fixed Budget

It is a budget which is designed to remain unchanged irrespective of the level of the activity attained. This budget is not useful because the conditions go on the changing and cannot be expected to be firm.

Flexible Budget

A flexible budget is one "which is designed to change in relation to the level of activity attained."

Fixed Vs Flexible Budget

The following table is showing the difference between Fixed and Flexible Budget.

Point of Distinction	Fixed Budget	Flexible Budget
Flexibility	It is inflexible and does not change with the actual volume of output achieved.	It is flexible and can be suitably re-casted quickly according to the level of activity attend
Condition	It assumes that conditions would remain static.	It is designed to change according to changed conditions.
Classification of cost	Costs are not classified according to their variability i.e. fixed, variable and semi-variable.	Costs are classified according to changed conditions.
Comparison	Comparison of actual and budgeted performance cannot be done correctly if the volume of output differs.	Comparisons are realistic as the changed plan figure are placed against actual ones.
Forecasting	It is difficult to forecast accurately the result in it.	It clearly shows the impact of various expenses on the operational aspect of the business.

Long-term Budget

These budgets are prepared on the basis of long-term projection and portray a long-range planning. These budgets generally cover plans for three to ten years.

Short-term Budget

In this budget forecasts and plans are given in respect of its operations for a period of about one to five years.

Current Budget

These budgets cover a very short period, may be a month or a quarter or maximum one year.

Rolling Budget

A few companies follow the practice of preparing a rolling or progressive budget. In this case companies prepare the budget for a year in advance. A new budget is prepared after the end of each month or quarter for a full year in advance. The figures for the month or quarter which has rolled down are dropped and the statistics for the next month or quarter are added.

Master Budget

- It is a review budget which combines all functional budgets.
- It may take the form of Financial Statements at the end of budget period.
- It is also called the operating budget.
- It embraces the impact of both operating decisions and financing decisions.
- It provides the necessary plan for operations during the period when all detailed budgets have been completed.
- It is an annual profit plan, which may be broken into months or quarters.

Merits of the Master Budget

- A review of all the functional budgets in specific form is available in one report.
- It presents an overall profit position of the organization for the budget.
- It also contains the information regarding the forecast balance sheet.
- It examines the fitness of all the functional budgets.

8.4 Zero Base Budgeting

- The 'Zero-Base' refers to a 'nil-budget' as the starting point.
- It starts with a presumption that the budget for the next period is 'zero' until the demand for a function, process, or project is not justified for single penny.
- The assumption is that without such justification, no expenditure will be allowed.
- In effect, each manager or functional head is required to carry out cost-benefit analysis of each of the activities, etc. under his control and for which he is responsible.

Rationale of Zero-Based Budgeting

The method of ZBB suggests that the business should not only make decision about the proposed new programs, but it should also, regularly, review the suitability of the existing programs.

Presumptions of Zero-Based Budgeting

- There is an efficient budgeting system within the enterprise.
- Managers can develop quantitative measures for use in performance evaluation.
- Among the new suggestions and programs, along with old ones are put to a strict scrutiny.
- Funds are diverted from low-priority suggestions to high priority suggestions.

8.5 Preparation of Cash Budget

Cash budget is nothing but an estimation of cash receipts and cash payments for specified period. It is prepared by the head of the accounts department, i.e. chief accounts officer.



Example:

From the following budget figures, prepare a cash budget of three months to June 30, 2020:

Months	Sales (₹)	Material (₹)	Wages (₹)	Overheads (₹)
January	60,000	40,000	11,000	6,200
February	56,000	48,000	11,600	6,600
March	64000	50000	12000	6800
April	80000	56000	12400	7200
May	84000	62000	13000	8600
June	76000	50000	14000	8000

Additional Information:

- Expected cash balance on 1st April, 2020 was ₹ 10,000.
- Materials and overheads are to be paid during the month following the month of supply.
- Wages are to be paid during the month in which they are incurred.
- The term of credit sales is payment by end of the months following the month of sale. 1/2 of the sales are paid in the next month, the other half to be paid in the following month.
- 5% Sales Commission is to be paid within the month following actual sales.
- Plant and machinery ₹10,000 are to be installed in the month of January and payment is to be made in month of May.
- Equity shares call money for ₹20,000 is due on 1st May.

Solution:

Details	April (₹)	May (₹)	June (₹)
Opening balance of Cash (A)	10000	(2400)	(600)
Receipts			
From Debtors	60000	72000	82000
Equity call money		20000	
Total Receipts (B)	60000	92000	82000
Payments			
Material Cost	50000	56000	62000
Overhead Cost	6800	7200	8600
Wages	12400	13000	14000
Commission	3200	4000	4200
Plant and Machinery		10000	
Total Payments (C)	72400	90200	88800
Closing balance of Cash (A+B-C)	(2400)	(600)	(7400)



Notes:

- The working notes of calculation of cash received from debtors are as follows:

Cash Received from Debtors	April (₹)	May (₹)	June (₹)
50% of Feb. sales	28,000		
50% of March Sales	32,000		
50% of March Sales		32000	
50% of April sales		40000	
50% of April Sales			40000
50% of May Sales			42000
Total cash received from Debtors	60,000	72000	82000

- 2) As in case of materials and overheads, they are paid during the month following the month of supply. Thus, in month of April, the material cost and overhead cost of March will be paid and in the month of May, the material cost and overhead cost of April will be paid. In the same manner, in the month of June, the material cost and overhead cost of May will be paid.



Example:

From the following information prepare a monthly cash budget for the three months ending 31st Dec.2019.

Month	Sales	Materials	Wages	Production Expenses	Admin & Selling Expenses
	(₹)	(₹)	(₹)	(₹)	(₹)
June	3,000	1,800	650	225	160
July	3,250	2,000	750	225	160
Aug.	3,500	2,400	750	250	175
Sep.	3,750	2,250	750	300	175
Oct.	4,000	2,300	800	300	200
Nov.	4,250	2,500	900	350	200
Dec.	4,500	2,600	1,000	350	225

Additional Information:

(i) Credit terms are:

(a) Sales – 3 months to debtors. 10% of sales are on cash.

(b) Creditors for material provide 2 months credit period.

(ii) Lag in payment of Wages is 1/4 month and overheads is 1 month.

(iii) Cash and Bank Balance on 1st Oct. expected ₹ 1,500.

(iv) Other information

(a) Plant and Machinery to be installed in Aug. at a cost of ₹24,000. It will be paid for by monthly installments of ₹ 5,00 each from 1st October.

(b) Preference share dividend @ 5% on ₹ 50,000 are to be paid on 1st December.

(c) Calls on 250 equity shares @ ₹ 2 per share expected on 1st November.

(d) Dividends from investments amounting to ₹ 250 are expected on 31st December.

(e) Income tax (advance) to be paid in December ₹ 500.

Solution:

Particulars	Oct (₹)	Nov (₹)	Dec (₹)
Opening Balance	1500.00	662.50	612.50
Receipts			
Cash Sales	400.00	425.00	450.00
Debtors	2925.00	3150.00	3375.00
Equity Call money		500.00	
Dividend received			250.00
Total Receipts	3325.00	4075.00	4075.00
Payments			
Materials	2400.00	2250.00	2300.00
Wages (3/4th) Same month	600.00	675.00	750.00
Wages (1/4th) 1 month credit	187.50	200.00	225.00
Overheads			
Production	300.00	300.00	350.00
Admin and Selling	175.00	200.00	200.00
Plant and Machinery Instal.	500.00	500.00	500.00
Preference dividend			2500.00
Income tax			500.00
Total Payments	4162.50	4125.00	7325.00
Closing balance of Cash	662.50	612.50	(2637.50)

8.6 Preparation of Flexible Budget

A flexible budget is one “which is designed to change in relation to the level of activity attained.”



Example:

The Expenses for the budget production of 10,000 units in a factory are furnished below: Material- ₹ 70/unit

Labor - ₹ 25/unit

Variable overheads - ₹ 20 /unit

Fixed Overheads (₹ 1,00,000) - ₹ 10/unit

Variable Expenses (Direct)- ₹ 5/unit

Selling expenses (10% Fixed) - ₹ 13/unit

Distribution expenses (20 % Fixed)- ₹ 7/unit

Administration Expenses (₹ 50,000)- ₹ 5/unit

Total cost per unit (to make, to sell)- ₹ 155/unit

Prepare a budget for production of

- a) 8000 units b) 6,000 units (indicate cost per unit at both the levels)

Assume that administration expenses are fixed for all the levels of production

Solution:

Particulars	10,000	10,000	8,000	8,000	6,000	6,000
	Units	Units	units	units	units	units
	Per unit	₹	Per unit	₹	Per unit	₹
Production Expenses						
Material	70	700,000	70	560,000	70	420,000
Labour	25	250,000	25	200,000	25	150,000
Overheads	20	200,000	20	160,000	20	120,000
Direct (Variable Exp.)	5	50,000	5	40,000	5	30,000
Fixed Overheads	10	100,000	13	100,000	16.67	100,000
Selling Expenses						
Fixed	1.3	13,000	1.625	13,000	2.167	13,002
Variable	11.7	117,000	11.7	93,600	11.7	70,200
Distribution Expenses						
Fixed	1.4	14,000	1.75	14,000	2.334	14,004
Variable	5.6	56,000	5.6	44,800	5.6	33,600
Admin Expense	5	50,000	6.25	50,000	8.33	50,000
Total Cost	155	1,550,000	159	1,275,400	167	1,000,806



Example:

A factory is currently working to 50% capacity and produces 10,000 units. Estimate the profits of the company when it works at 60% and 80% capacity and offer your critical comments.

- At 60% working raw material cost increases by 2% and selling price falls by 2%.
- At the 80% working raw material cost increases by 5% and selling price falls by 5%.
- At 50% working the product costs ₹ 180 per unit and is sold at ₹200 per unit.

The unit cost of ₹ 180 is made up as follows:

Material: ₹ 100

Labor: ₹ 30

Factory overhead: ₹ 30 (40% Fixed)

Administration overhead: ₹ 20 (50% Fixed)

Prepare Flexible Budget showing cost and profit details for 50%, 60% and 80% capacity.

Solution:

Particulars	Output: 10,000 unit 50% capacity		Output: 12,000 units 60% capacity		Output: 16,000 units 80% capacity	
	Total (₹)	Per unit (₹)	Total (₹)	Per unit (₹)	Total (₹)	Per unit (₹)
Material cost	1000000	100	1224000	102	1680000	105
Labor cost	300000	30	360000	30	480000	30
Factory Overheads						
Fixed	120000	12	120000	10	120000	7.5
Variable	180000	18	216000	18	288000	18
Adm. Overheads						
Fixed	100000	10	100000	8.33	100000	6.25
Variable	100000	10	120000	10	160000	10
Total Cost	1800000	180	2140000	178.3333	2828000	176.75
Profit	200000	20	212000	17.66667	212000	13.25
Sales	2000000	200	2352000	196	3040000	190

Summary

A budget is an estimate prepared for definite future period either in terms of financial or non-financial terms.

Budgetary control system contains two different processes one is the preparation of the budget and another one is the control of the prepared budget.

The production budget is a statement of goods, how much should be produced.

The ultimate aim of the production budget is to find out the volume of production to be made during the year based on the sale volume.

Sales Budget is an estimate of anticipation of sales in the near future prepared by the responsible person for the sale of a product by considering the various factors of influence.

Cash budget is nothing but an estimation of cash receipts and cash payments for specified period. It is prepared by the head of the accounts department i.e., Chief Accounts Officer.

Fixed budget is mainly meant for the fixed overheads of the firm, which are constant in volume irrespective level of production.

Keywords

Budget: A financial statement prepared for specified activity for future periods.

Budgeting: Activity of preparing the budget is known as budgeting.

Budget Control: Quantitative controlling technique to assess the performance of the organization.

Cash Budget: It is a statement prepared by the organization to identify the future needs and receipts of cash from the yester activities.

Fixed Budget: It is meant for the fixed overheads of the firm, which are constant in volume irrespective level of production.

Flexible Budget: A flexible budget is one which is designed to change in relation to the level of activity attained.

Master Budget: It is a review budget which combines all functional budgets.

Rolling Budget: Rolling budget is a continuous budget that is updated regularly when the earlier budget period expires, or we can say it is an extension of the current period budget. Rolling Budget is also known as budget rollover.

Self-Assessment/Evaluation

1. On the basis of _____, budget is classified into long term budget, short term budget and current budget.

- a) Functions
- b) Control
- c) Time
- d) All of above

2. Variable budget is also known as _____ budget.

- a) Fixed
- b) Semi-variable
- c) Flexible
- d) Master

3. The budget prepared according to _____ is known as functional budgets.

- a) Period
- b) Controls
- c) Functions
- d) Zero Based Budgeting

4. _____ budget is a budget which is designed to remain unchanged irrespective of the volume of output or turnover achieved.

- a) Fixed
- b) Flexible
- c) Cash
- d) Master

5. A _____ budget is the budget which shows the quantity and value of goods to be purchased during the budget period to meet the day-to-day needs of the business.

- a) Sales
- b) Cash
- c) Purchase
- d) Labor

6. Given estimated sales in February, March, April, May and June are ₹96,000, ₹ 90,000, ₹ 52,000, ₹ 67,000 and ₹ 69,000. In case 50% of sales are realized in the next month and balance in the next of next month, determine cash collection from sales in May.

- a) ₹ 71,000
- b) ₹ 70,500
- c) ₹ 59,500
- d) ₹ 68,000

7. Given estimated sales in February, March, April, May and June are ₹ 56,000, ₹ 60,000, ₹ 66,000, ₹ 70,000 and ₹ 78,000. In case 50% of sales are realized in the next month and balance in the current month, determine cash collection from sales in April.

- a) ₹ 63,000
- b) ₹ 68,000
- c) ₹ 66,000
- d) ₹ 86,000

8. Given estimated sales in February, March, April, May and June are ₹ 96,000, ₹ 90,000, ₹ 52,000, ₹ 67,000 and ₹ 69,000. In case 50% of sales are realized in the next month and balance in the next of next month, determine cash collection from sales in June.

- a) ₹ 59,500
- b) ₹ 70,500
- c) ₹ 68,000
- d) ₹ 71,000

9. In a firm, the forecast of wages for month of December, January, February and March are ₹ 4,800, ₹ 6,000, ₹ 6,400 and ₹ 6,800. The time-lag in payment of wages is 1/8 month. Determine the amount of wages payable in the month January.

- a) ₹ 6,750
- b) ₹ 5,850
- c) ₹ 6,350
- d) ₹ 4,800

10. Cash budget deals with historical data whereas Cash Flow Statement deals with future data.

- a) True
- b) False

11. Calculate estimated material cost for 1100 units in 2021 from the following information:

Cammy, a soap making company is producing 800 units of soap presently (2020). It is incurring ₹ 90 per soap for Fat (1 type of Raw material) in current year. Cammy's purchase manager is expecting that there will be increase in the prices of Fat by ₹ 6 per soap in 2021.

- a) ₹ 69,300
- b) ₹ 36,300
- c) ₹ 1,05,600
- d) ₹ 66,000

12. The cost of material at 50% capacity is ₹ 8,000 and budget is to be prepared at 60%, 90% and 100% of normal capacity. The cost of material at 90% capacity will be:

- a) ₹ 9,600
- b) ₹ 14,400
- c) ₹ 4,800
- d) ₹ 7,200

13. SPSS, a software developer incurs Distribution Expenses (20% fixed) ₹ 2.50 per Software package. Presently, it is producing 100 packages. Calculate Total Distribution Expenses that SPSS will incur for 120 packages.

- a) ₹ 240
- b) ₹ 50
- c) ₹ 290
- d) ₹ 300

14. Bira Beverages incurs Selling Expenses (10% fixed) ₹ 7.50 per Juice Bottle. Presently, it is producing 100 Juice Bottles. Calculate Total Variable Selling Expenses that Bira Beverages will incur for 140 packages.

- a) ₹ 75
- b) ₹ 945
- c) ₹ 1020
- d) ₹ 1050

15. Calculate estimated material cost for 900 units in 2021 from the following information:

Lifeboy, a soap making company is producing 800 units of soap presently (2020). It is incurring ₹80 per soap for Fat (I type of raw materials) in current year. Lifeboy's purchase manager is expecting that there will be increase in the prices of Fat by ₹5.5 per soap in 2021.

- a) ₹ 72,000
- b) ₹ 68,400
- c) ₹ 76,950
- d) ₹ 64,000

Review Questions

1. From the following information, prepare a cash budget of three months starting from April, 2020:

Months	Sales (₹)	Material (₹)	Wages (₹)
January	40000	10000	5000
February	54000	12000	6600
March	55000	14000	6000
April	64000	15000	7400
May	70000	18000	7600
June	72000	21000	8000

Additional Information:

1. Expected cash balance on 1st April, 2020 was ₹ 11500.
2. Materials are paid during the following month of supply.
3. Wages are paid in the same month.
4. All sales proceeds are collected within the month of sale.
5. 5% Sales Commission is to be paid within the month following actual sales.

2. From the following information, prepare a cash budget of three months ending June 30, 2020:

Months	Sales (₹)	Material (₹)	Overheads (₹)
January	45000	11000	3000
February	59000	13000	4600
March	75000	13500	5500
April	74000	15000	6400
May	78000	17000	6600
June	82000	20000	7000

Additional Information:

1. Expected cash balance on 1st April, 2020 was ₹ 10500.
2. Materials are paid in same month of its purchase.
3. Overheads are paid in following month of which they are incurred.
4. All sales proceeds are collected within the month of sale.

3. From the following information, prepare a cash budget of three months starting from April, 2021:

Months	Sales (₹)	Material (₹)	Wages (₹)
January	30000	7000	600
February	34000	8000	760
March	35000	8000	700
April	34000	9000	840
May	30000	7000	780
June	32000	10000	800

Additional Information:

1. Expected cash balance on 1st April, 2021 was ₹ 7500.
2. Materials are paid during the following month of supply.
3. Wages are paid in the same month.
4. All sales proceeds are collected within the month of sale.

4. What do you mean by budget? Explain the various types of Budgets.
5. What is meant by Budgetary control? Illustrate the steps of implementing Budgetary control in an organization.
6. Differentiate between Fixed Budget and Flexible Budget.
7. State the advantages and limitations of Budgetary control.
8. What is a master budget? Explain its merits of preparing the same.
9. What is Zero-based budgeting? Elaborate the rationale and presumption of Zero-based budgeting.
10. Summarize the essentials of implementing Budgetary Control in an organization.
11. The Expenses for the budget production of 10,000 units in a factory are furnished below:
 Material- ₹ 80/unit
 Labor - ₹ 35/unit
 Variable overheads - ₹ 30 /unit
 Fixed Overheads are ₹ 1,00,000
 Administrative Overheads ₹ 50,000
 Selling expenses (10% Fixed) - ₹ 15/unit
 Distribution expenses (20 % Fixed)- ₹ 10/unit
 Prepare a budget for production for 8000 units and 12,000 units and indicate cost per unit also.

12. ABC Ltd. has prepared the budget for the production of one lakh units of the only commodity manufactured by them for a costing period as under:

	₹ (Lakh)
Raw material	2.52
Direct Labor	0.75
Direct expenses	0.10
Works overhead (60% Fixed)	2.25
Administrative overheads (80% Fixed)	0.40
Selling overheads (50% Fixed)	0.20

The actual production during the period was only 60,000 units. Calculate the revised budgeted cost per unit.

13. From the following budgeted figure, prepare a cash budget in respect of three months to May, 2019:

Months	Credit Sales (₹)	Material (₹)	Wages (₹)	Overheads (₹)
January	40,000	12,000	1,200	600
February	70,000	14,000	3,200	300
March	68,000	13,000	3,000	200
April	52,000	14,000	2,500	100
May	40,000	3,000	1,500	200

Additional Information:

Expected cash balance on 1st March, 2019 was ₹ 25,000.

- Lag in payment of wages 1/2 months.
- 50% of sales are realized in the month following the sale and remaining 50% in the second month following.

Answers: Self-Assessment

1	C	2	C	3	c	4	A	5	c
6	A	7	A	8	a	9	B	10	b
11	C	12	B	13	c	14	B	15	c

Further Reading



Books

- FUNDAMENTALS OF COST ACCOUNTING By WILLIAM N. LANEN, SHANNON W. ANDERSON, MICHAEL W. MAHER, MCGRAW HILL EDUCATION
- MANAGEMENT ACCOUNTING By SHAH PARESH, OXFORD UNIVERSITY PRESS
- A TEXTBOOK OF ACCOUNTING FOR MANAGEMENT By MAHESHWARI. S.N, MAHESHWARI SHARAD.K, MAHESHWARI SUNEEL.K, VIKAS PUBLISHING HOUSE
- ACCOUNTING FOR DECISION MAKING By NEEDLES BELVERD. E, CENGAGE LEARNING
- FINANCIAL ACCOUNTING FOR MANAGEMENT: AN ANALYTICAL PERSPECTIVE By GUPTA AMBRISH, PEARSON



Online Links

<https://www.accountingnotes.net/cost-accounting/budget/budget-definition-purpose-elements-and-steps/4795>

<https://www.iedunote.com/budget>

<http://egyankosh.ac.in/bitstream/123456789/7193/1/Unit-14.pdf>

Unit 09: Inventory Valuation

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Objectives

After studying this unit, you will be able to:

- illustrate the meaning of inventory.
- write the relevance and techniques of inventory control.
- explain the various methods of pricing material issues.
- assess the closing value of inventory on a specific date if inventories are issued as per the FIFO method.
- measure the closing value of inventory as on a certain date if inventories are issued as per the LIFO method.

Introduction

Inventory is a significant factor of production in a manufacturing organization. It is the primary element of a product cost. Inventories account for nearly 50-60 percent of the cost of production, depending upon the nature of industries. This fact can be inferred from an analysis of the financial statements of a large number of organizations.

Uninterrupted supply of inventory of required quality and quantity as needed for the production department is a prerequisite for carrying out continuous production activities. The non-availability of materials or stock will bring the entire production activities to a standstill. And, the implications of production stoppage are very well known for its multi-negative consequences. Besides, this element of cost provides several avenues for cost control, such as at the time of purchase, during manufacturing. Hence, greater emphasis is to be laid on Inventory control.

9.1 What are Inventories?

Inventory denotes the assets that are:

- Held for sale in the ordinary course of business.
- In the process of production for sale.
- In the form of materials or supplies to be consumed in the production process or in the rendering of services.



Examples:

- For a Garment trader, Shirts, Trousers, Dresses, Jeans, Skirts, Kurtis, etc., are Inventories as they are held for sale in the ordinary course of business.
- For a Cycle making business like Hero Cycles, Tires, Wheels, Chain Pedal, Front brake, Rim, Rear brake, Seat, Frame, nuts, bolts, accessories, cloth, etc., are inventories that are in the form of materials or supplies to be consumed in the production process for making bicycles. Finished bicycles are also inventories that are held for sale in the ordinary course of business.

9.2 Inventory Cost

Three sub-costs that constitute inventory cost are Carrying cost, Ordering cost, Shortage cost. Let's discuss these costs as follows:

- a) **Carrying cost:** It is the cost of holding an item in inventory.
- b) **Ordering cost:** It is the cost of replenishing inventory.
- c) **Shortage cost:** It is the temporary or permanent loss of sales when demand cannot be met.

9.3 Risk of Holding Excessive Inventory

The following are the key risks that arise as a consequence of holding excessive inventory:

- Price decline
- Product Deterioration
- Product Obsolescence
- Risk of an item not getting sold
- Higher storage costs
- Risk of natural disasters
- Higher insurance premiums



Notes:

Price decline: Holding excessive inventory can result in a price decline of inventory. The old inventories may turn into old models that have been out of fashion and are not demanded by customers anymore.

Product deterioration: There will be deterioration in the product quality, appearance, and usability if products are just kept in the warehouses and cannot get sold or consumed by the company.

Product Obsolescence: Product obsolescence means a product may go out of fashion due to the launch of new updated variants. For instance, every year, mobile-making companies such as Samsung, Apple, etc. come up with new models of their various mobile brands. With the introduction of new models, old models turn out of fashion, and their prices also get declined.

Risk of an item not getting sold: When the product's conditions deteriorate or get obsolete, there will be higher chances that the product will not get sold at its maximum retail price. Even companies give high discounts to clear such outdated or deteriorated stock as holding them in warehouses will shot up the company's storage cost.

Higher storage costs: If an older inventory is still piled up in the various places of the company's warehouse, the company will first have to arrange new stores to keep its new inventory; secondly, it has to hire more storekeepers and has to spent high carrying cost.

Risk of natural disasters: Holding excessive inventory increase the chances of bearing high cost due to natural disasters.

Higher insurance premiums: Holding excessive inventory will increase the insurance cost.

9.4 Inventory Control

Inventory control is the systematic control and regulation of the purchase, storage, and usage of materials in such a way as to maintain an even flow of production and at the same time avoiding excessive investment in materials.

Efficient material control reduces losses and wastages of materials that otherwise pass unnoticed.

Objectives of Inventory Control

The following are the critical objectives of exercising Inventory control:

- Preventing dead Stock or Perishability
- Optimizing Storage Cost
- Maintaining Sufficient Stock
- Enhancing Cash Flows
- Reducing Purchase Cost of Goods

Inventory Control – Techniques

The following are the essential techniques of Inventory control:

- ABC Techniques
- Fixing and Maintaining appropriate Stock Levels
- Economic Order Quantity (EOQ)
- Just-in-time (JIT) system
- Use of Control Ratios
- Review of Slow and Non-moving Items.
- Material Budgets
- VED analysis
- Proper purchase procedure
- Use of Perpetual Inventory System and Continuous Verifications

Difficulties at times of Material Issue

When materials are issued to the production department, a difficulty arises:

At which price materials to be issued?

The same type of material may have been purchased in different lots at different times at several different prices. It means that actual cost can take on several different values, and the same method of pricing the issue of materials must be selected.

9.5 Methods of pricing material issues

The following table is showing the various methods of pricing material issues.

1. Cost Price Methods	2. Average Price Methods	3. Notional Price Methods
a) Specified Price	a) Simple Average	a) Standard Price 1) Current Standard 2) Basic Standard
b) First-in First-out (FIFO)	b) Weighted Average	b) Inflated price
c) Last-in First-out (LIFO)	c) Periodic Simple Average	c) Market price 1) Replacement Price 2) Realisable Price
d) Highest-in First-out (HIFO)	d) Moving Simple Average	
e) Base Stock	e) Moving Weighted Average	

First-in First-out (FIFO) Method

This method is based on the assumption that materials that are purchased first are issued first. It uses the price of the first batch of materials purchased for all issues until all units from this batch have been issued.



Caution:

- Materials are charged at the actual cost price and at the oldest price of materials in stock.
- The stock of materials in hand is valued at the latest purchase prices.

Advantages

- It is a sound inventory management system since the oldest units are used first, and inventory consists of the latest stock.
- It is logical.
- It is easy to understand and operate.
- It facilitates inter-firm and intra-firm comparisons.
- The valuation of inventory and cost of finished goods is consistent and realistic.

Disadvantages

- The cost of production is not linked to the current prices.
- If prices are rising, the production cost is understated.
- The pricing of material returns is complicated.
- High inflation creates problems in replacing used materials; this aspect is not dealt with in FIFO.
- It does not present an accurate picture when many lots are purchased at different prices. The calculation becomes complicated.

Rising and Falling prices

- The FIFO method produces higher profits during rising prices and results in higher tax liabilities because lower cost is charged to production.
- The FIFO method produces lower profits during falling prices and results in lower taxes because they are derived from a higher cost of goods sold.



Example:

Prepare a Stores ledger account from the following information adopting the First-in-First-out (FIFO) Method of pricing of issues of Materials:

Date	Transactions
2-Sep	Opening Balance 3000 units @ ₹ 1.50
4-Sep	Purchased 4000 units @ ₹ 2.15
5-Sep	Issued 2200 units
6-Sep	Issued 1600 units
8-Sep	Issued 2000 units
11-Sep	Purchased 4800 units @ ₹ 2.50
12-Sep	Issued 1800 units
14-Sep	Purchased 5000 units @ ₹ 2.85
17-Sep	Issued 1600 units
19-Sep	Issued 4000 units
20-Sep	Purchased 1000 units @ ₹ 3.00
25-Sep	Issued 1200 units
29-Sep	Issued 600 units

Solution:

Date	Receipts			Issue			Balance		
	Qty (Units)	Rate (₹)	Amt. (₹)	Qty (Units)	Rate (₹)	Amt. (₹)	Qty (Units)	Rate (₹)	Amt. (₹)
2-Sep							3000	1.5	4500
4-Sep	4000	2.15	8600				3000	1.5	4500
							4000	2.15	8600
5-Sep				2200	1.5	3300	800	1.5	1200
							4000	2.15	8600
6-Sep				800	1.5	1200			
				800	2.15	1720	3200	2.15	6880
8-Sep				2000	2.15	4300	1200	2.15	2580
11-Sep	4800	2.5	12000				1200	2.15	2580
							4800	2.5	12000
12-Sep				1200	2.15	2580			
				600	2.5	1500	4200	2.5	10500
14-Sep	5000	2.85	14250				4200	2.5	10500
							5000	2.85	14250
17-Sep				1600	2.5	4000	2600	2.5	6500
							5000	2.85	14250
19-Sep				2600	2.5	6500			
				1400	2.85	3990	3600	2.85	10260
20-Sep	1000	3	3000				3600	2.85	10260
							1000	3	3000
25-Sep				1200	2.85	3420	2400	2.85	6840
							1000	3	3000
29-Sep				600	2.85	1710	1800	2.85	5130
							1000	3	3000

Closing Balance of Stock as on Sep 29, 2020, is 2800 units for ₹ 8130.



Example:

From the following information, prepare a stores ledger account under the FIFO method:

1/1/2020	Opening stock, 1200 units at ₹ 5 each
2/1/2020	Purchased 800 units at ₹ 6 each
4/1/2020	Issued 1100 units
5/1/2020	Purchased 500 units at ₹ 6.20 each
8/1/2020	Issued 300 units
11/1/2020	Issued 250 units
15/1/2020	Purchased 700 units at ₹ 6.50 each
20/1/2020	Issued 150 units

Solution:

Date	Receipts			Issue			Balance		
	Qty (Units)	Rate (₹)	Amt. (₹)	Qty (Units)	Rate (₹)	Amt. (₹)	Qty (Units)	Rate (₹)	Amt. (₹)
1/1/2020							1200	5	6000
2/1/2020	800	6	4800				1200	5	6000
							800	6	4800
4/1/2020				1100	5	5500	100	5	500
							800	6	4800
5/1/2020	500	6.2	3100				100	5	500
							800	6	4800
							500	6.2	3100
8/1/2020				100	5	500	600	6	3600
				200	6	1200	500	6.2	3100
11/1/2020				250	6	1500	350	6	2100
							500	6.2	3100
15/1/2020	700	6.5	4550				350	6	2100
							500	6.2	3100
							700	6.5	4550
20/1/2020				150	6	900	200	6	1200
							500	6.2	3100
							700	6.5	4550
							1400		8850

Closing Stock as on Jan 20, 2020, is 1400 units for ₹ 8850

Last-in First out (LIFO) Method

The LIFO method is based on the principle that the materials used in production should be from the latest purchase. The inventory is priced at the oldest costs as per this method.

As the method applies the current cost of materials to the cost of units, it is also known as the replacement cost method.



Caution:

- Issues are priced at actual cost and at the latest prices paid.
- Closing stock is valued at the old prices and is entirely out of line with current prices.

Advantages

- It is simple and valuable when transactions are few.
- It is a good method of avoiding tax.
- It is a systematic method. It matches current costs with current revenues in a better way.
- It reveals real income in times of rising prices.
- It minimizes unrealized inventory gains and losses and stabilizes reported operation profits, especially when the industry is prone to sharp price fluctuations.

Disadvantages

- When rates of material receipts are highly fluctuating, the method becomes complicated.
- More than one price may have to be adopted for an issue.
- The cost of different batches varies greatly, making inter-firm and intra-firm comparison difficult.
- The stocks require to be adjusted during falling prices.
- Unless purchases and sales occur in equal quantities, the current costs cannot be easily matched with current revenue.

Rising and Falling prices

- During rising prices, profits and tax liability under LIFO would be lower than under the FIFO method.
- In the period of falling prices, the closing stock would be valued at a higher price, and thus the profits and taxes would also be higher.



Example

From the following information, prepare a stores ledger account under the LIFO method:

Date	Transactions
1/1/2020	Opening stock, 1200 units at ₹ 5 each
2/1/2020	Purchased 800 units at ₹ 6 each
4/1/2020	Issued 1100 units
5/1/2020	Purchased 500 units at ₹ 6.20 each
8/1/2020	Issued 300 units
11/1/2020	Issued 250 units
15/1/2020	Purchased 700 units at ₹ 6.50 each
20/1/2020	Issued 150 units

Solution:

Date	Receipts			Issue			Balance		
	Qty (Units)	Rate (₹)	Amt. (₹)	Qty (Units)	Rate (₹)	Amt. (₹)	Qty (Units)	Rate (₹)	Amt. (₹)
1/1/2020							1200	5	6000
2/1/2020	800	6	4800				1200	5	6000
							800	6	4800
4/1/2020				800	6	4800	900	5	4500
				300	5	1500			
5/1/2020	500	6.2	3100				900	5	4500
							500	6.2	3100
8/1/2020				300	6.2	1860	900	5	4500
							200	6.2	1240
11/1/2020				200	6.2	1240	850	5	4250
				50	5	250			
15/1/2020	700	6.5	4550				850	5	4250
							700	6.5	4550
20/1/2020				150	6.5	975	850	5	4250
							550	6.5	3575
							1400		7825

Closing Stock is 1400 units costing ₹ 7825.



Example:

Prepare a Stores ledger account from the following information adopting the Last-in-First-out Method of pricing of issues of Materials:

Date	Transactions
2-Sep	Opening Balance 3000 units @ ₹ 1.50
4-Sep	Purchased 4000 units @ ₹ 2.15
5-Sep	Issued 2200 units
6-Sep	Issued 1600 units
8-Sep	Issued 2000 units
11-Sep	Purchased 4800 units @ ₹ 2.50
12-Sep	Issued 1800 units
14-Sep	Purchased 5000 units @ ₹ 2.85
17-Sep	Issued 1600 units
19-Sep	Issued 4000 units
20-Sep	Purchased 1000 units @ ₹ 3.00
25-Sep	Issued 1200 units
29-Sep	Issued 600 units

Solution:

Date	Receipts			Issue			Balance		
	Qty (Units)	Rate (₹)	Amt. (₹)	Qty (Units)	Rate (₹)	Amt. (₹)	Qty (Units)	Rate (₹)	Amt. (₹)
2-Sep							3000	1.5	4500
4-Sep	4000	2.15	8600				3000	1.5	4500
							4000	2.15	8600
5-Sep				2200	2.15	4730	3000	1.5	4500
							1800	2.15	3870
6-Sep				1600	2.15	3440	3000	1.5	4500
							200	2.15	430
8-Sep				200	2.15	430	1200	1.5	1800
				1800	1.5	2700			
11-Sep	4800	2.5	12000				1200	1.5	1800
							4800	2.5	12000
12-Sep				1800	2.5	4500	1200	1.5	1800
							3000	2.5	7500
14-Sep	5000	2.85	14250				1200	1.5	1800
							3000	2.5	7500
							5000	2.85	14250
17-Sep				1600	2.85	4560	1200	1.5	1800
							3000	2.5	7500
							3400	2.85	9690
19-Sep				3400	2.85	9690	1200	1.5	1800
				600	2.5	1500	2400	2.5	6000
20-Sep	1000	3	3000				1200	1.5	1800
							2400	2.5	6000
							1000	3	3000
25-Sep				1000	3	3000	1200	1.5	1800
				200	2.5	500	2200	2.5	5500
29-Sep				600	2.5	1500	1200	1.5	1800
							1600	2.5	4000
							2800		5800

Summary

- Inventory control, therefore, aims at ensuring the availability of required quality material in the required quantity, at the necessary time or period, and place with minimum cost.
- Inventory involves an investment of money and locking up precious space which has alternate uses.
- Inventory control is generally exercised over raw materials and work in progress.
- The basic purpose of inventory control is to maintain an optimum level of inventory.
- Three components usually constitute the inventory cost: Acquisition cost of materials, Ordering cost of materials and Carrying cost of materials.
- A system of classifying materials and supplies according to value is known as ABC Analysis.
- The important operation of inventory management is inventory valuation through the store's ledger. Inventory valuation is being executed through the following various methodologies:
 - ✓ First-in-First-out (FIFO)
 - ✓ Last-in-First-out (LIFO)
 - ✓ Highest in First out (HIFO)
 - ✓ Simple Average Method (SAM)
 - ✓ Weighted Average Method (WAM)
 - ✓ Base Stock Method

Keywords

ABC Analysis: Analysis of exercising the control on the inventory based on value. Always Better Control Analysis; A- High control for high-value goods; B- Moderate control for lesser value goods and C- Little control on the least value goods.

Carrying Cost: Cost incurred for carrying the materials from the place of purchase to the area of production centre/profit centre.

FIFO method: This method is based on the assumption that earlier purchased materials are issued first.

Inventory: Stock of Raw materials, Stock of Work in Progress, Stock of Finished Goods, and Stock of Spares, but not Stock of Loose tools.

Inventory control: Inventory control is the systematic control and regulation of the purchase, storage, and usage of materials in such a way as to maintain an even flow of production and at the same time avoiding excessive investment in materials.

LIFO method: Under this method, the issues are made at the price of the latest consignment.

Ordering Cost: Cost incurred at the moment of placing the order of goods or materials, administration costs, cost of communication, and so on.

Self-Assessment/Evaluation

1. Mango cloth mills is incurring ₹ 2,00,000 as monthly warehouse rent to keep its inventory. Such warehouse rent will be treated as the following for Mango cloth mills.

- a) Carrying cost of inventory
- b) Ordering cost of inventory
- c) Shortage cost of inventory
- d) Total inventory cost

2. Kartik sports Ltd. incurs ₹ 50,000 every time to replenish its inventory of wood used to make "Bats." Such ₹ 50,000 will be treated as follows for Kartik sports Ltd.

- a) Carrying cost of inventory
- b) Ordering cost of inventory
- c) Shortage cost of inventory
- d) Total inventory cost

3. Raspberry enterprises Ltd. is in the business of making fresh juices of different berries. Due to the shortage of raspberries in its inventory, Raspberry enterprises Ltd. lost an order of ₹ 3,50,000 for selling Raspberry Juices to its regular client. Such lost order of ₹ 3,50,000 will be treated as the following for Raspberry enterprises Ltd.

- a) Carrying cost of inventory
- b) Ordering cost of inventory
- c) Shortage cost of inventory
- d) Total inventory cost

4. Mehta enterprises' owner, Mr. Jagdish, is always in favor of holding excessive inventory to avoid loss of sales due to shortage of inventory. In the capacity of the inventory manager, suggest to him the risk of having excessive inventory from the following.

- a) Risk of Price surge
- b) Risk of Product Deterioration
- c) Risk of lower storage cost
- d) Risk of paying lower insurance premiums

5. Shyam lata enterprises has hired you as its Inventory manager. In the board meeting, you are required to discuss and suggest to the board the various inventory control techniques from the following:

- a) ABC Techniques
- b) Fixing and Maintaining appropriate Stock Levels
- c) Economic Order Quantity (EOQ)
- d) All of above

6. First-in First-out falls under the following methods of pricing of material issues.

- a) Cost Price methods
- b) Average Price methods
- c) Notional Price methods
- d) Market Price methods

7. The following method is based on the assumption that earlier purchased materials are issued first.

- a) Specified Price
- b) First-in First-out (FIFO)
- c) Last-in First-out (LIFO)
- d) Highest-in First-out (HIFO)

8. In periods of rising prices, the FIFO method produces:

- a) Higher profits and results in higher tax liabilities
- b) Produces lower profits
- c) Lower tax liabilities
- d) Higher cost of goods sold

9. In the period of falling prices, the FIFO method produces:

- a) Higher profits
- b) Higher tax liabilities

- c) Lower profits and results in higher taxes
 - d) Lower profits and results in lower taxes
10. The FIFO method is a good inventory management system because:
- a) The oldest units are used first, and inventory consists of the latest stock
 - b) It facilitates inter-firm and intra-firm comparisons
 - c) It is easy to understand and operate
 - d) All of above
11. Last-in First-out falls under the following methods of pricing of material issues.
- a) Cost Price methods
 - b) Average Price methods
 - c) Notional Price methods
 - d) Market Price methods
12. The following method is based on the principle that the materials used in production should be taken from the latest purchase.
- a) Specified Price
 - b) First-in First-out (FIFO)
 - c) Last-in First-out (LIFO)
 - d) Highest-in First-out (HIFO)
13. In periods of rising prices, the LIFO method produces:
- a) Lower profits
 - b) Lower profits and Higher tax Liabilities
 - c) Lower profits and Lower tax Liabilities
 - d) Higher profits and Lower tax Liabilities
14. In the period of falling prices, the LIFO method produces:
- a) Higher profits
 - b) Higher profits and Higher Tax Liabilities
 - c) Higher profits and Lower Tax Liabilities
 - d) Lower profits and Lower Tax Liabilities
15. The following is treated as one of the significant limitations of the LIFO method:
- a) The cost of different batches varies greatly, making inter-firm and intra-firm comparison difficult.
 - b) It minimizes unrealized inventory gains and losses and stabilizes reported operation profits, especially when the industry is prone to sharp price fluctuations.
 - c) It reveals real income in times of rising prices.
 - d) It matches current costs with current revenues in a better way.

Review Questions

1. Illustrate the meaning of Inventory. Explain the cost components of Inventory cost.
2. What is Inventory control? Explain the objectives of exercising inventory control in an organization.
3. List the Inventory control techniques.
4. List the various methods of pricing inventory issues.
5. What is the FIFO method? Explain its advantages and limitations.

6. Explain the LIFO method along with its merits and demerits.
7. The basic purpose of material control is to maintain an optimum level of inventory. Discuss.
8. Which method is most suitable for perishable commodities? Why? Reason out the suitability of the model.
9. From the following information, prepare a stores ledger account under both FIFO and LIFO methods.

1/1/2020	Opening stock, 200 units at ₹ 50 each
2/1/2020	Purchased 100 units at ₹ 55 each
4/1/2020	Issued 100 units
5/1/2020	Purchased 250 units at ₹ 60 each
8/1/2020	Issued 180 units

10. From the following information, prepare a store ledger account under both FIFO and LIFO methods.

1/1/2018	Opening stock, 200 units at ₹ 50 each
2/1/2018	Returned to store 100 units at ₹ 45 each
4/1/2018	Issued 120 units
5/1/2018	Purchased 280 units at ₹ 60 each
8/1/2018	Issued 170 units

11. Prepare a store ledger account from the following information adopting the LIFO method of pricing of issues of materials.

March 1	Opening balance 500 tonnes @ ₹ 200
March 4	Received from supplier 200 tonnes @ ₹ 190
March 8	Issue 80 tonnes
March 13	Issue 150 tonnes
March 20	Received from supplier 240 tonnes @ ₹ 195.

12. From the following information, prepare a stores ledger account under the FIFO method

1/1/2021	Opening stock, 1000 units at ₹ 5 each
2/1/2021	Purchased 500 units at ₹ 6.20 each
4/1/2021	Issued 300 units
5/1/2021	Purchased 400 units at ₹ 6.25 each
8/1/2021	Issued 200 units
11/1/2021	Issued 50 units
15/1/2021	Purchased 450 units at ₹ 6.50 each
20/1/2021	Issued 150 units

Answers: Self-Assessment

1	A	2	B	3	C	4	B	5	D
6	A	7	B	8	A	9	D	10	D
11	A	12	C	13	C	14	B	15	A

Further Reading



Books

- FUNDAMENTALS OF COST ACCOUNTING by WILLIAM N. LANEN, SHANNON W. ANDERSON, MICHAEL W. MAHER, MCGRAW HILL EDUCATION
- MANAGEMENT ACCOUNTING by SHAH PARESH, OXFORD UNIVERSITY PRESS
- A TEXTBOOK OF ACCOUNTING FOR MANAGEMENT by MAHESHWARI. SN, MAHESHWARI SHARAD.K, MAHESHWARI SUNEEL.K, VIKAS PUBLISHING HOUSE
- ACCOUNTING FOR DECISION MAKING by NEEDLES BELVERD. E, CENGAGE LEARNING
- FINANCIAL ACCOUNTING FOR MANAGEMENT: AN ANALYTICAL PERSPECTIVE by GUPTA AMBRISH, PEARSON



Online Links

<https://www.bigcommerce.com/blog/inventory-management/#inventory-management-techniques>

[https://cleartax.in/g/terms/first-in-first-out-fifo#:~:text=First%20In%2C%20First%20Out%20\(FIFO\)%20is%20part%20of%20an,at%20last%20are%20sold%20first.](https://cleartax.in/g/terms/first-in-first-out-fifo#:~:text=First%20In%2C%20First%20Out%20(FIFO)%20is%20part%20of%20an,at%20last%20are%20sold%20first.)

<https://www.freshbooks.com/hub/accounting/what-is-lifo#:~:text=LIFO%20stands%20for%20%E2%80%9CLast%20In,ones%20used%20in%20the%20calculation.>

<https://www.accountingtools.com/articles/2017/5/13/last-in-first-out-method-lifo-inventory-method>

Unit 10: Marginal Costing and Profit Planning

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Objectives

After studying this unit, you will be able to:

- appraise the use of Cost-volume-profit analysis.
- explain the various elements of CVP analysis.
- perform Break-Even analysis.
- apply the break-even analysis for decision-making.

Introduction

Cost Volume Profit (CVP) analysis is one of the premier tools of management to take decisions and fix a reasonable price and assess the level of profitability of the products/services. This is the only costing tool that demarcates the fixed cost from the variable cost of the product/service to guide the firm to know the minimal point of sales to equate production costs. It is a tool of analysis highlighting the relationship between the firm's cost, the volume of sales, and profitability.

Meaning, assumptions, use, applications, and elements of CVP analysis are briefly discussed in the present unit.

10.1 Marginal Cost and Marginal Costing

Marginal Cost

Marginal cost is a change in the total cost due to a change in the production level, i.e., either an increase/decrease by one unit of product.

"Marginal cost is the amount at any given volume of output, by which aggregate costs are charged if the volume of output is increased or decreased by one unit."

-- ICMA

Marginal Costing

Marginal Costing is defined as:

"The ascertainment of marginal cost and the effect on profit of changes in volume or type of output by differentiating between fixed and variable costs."

In marginal costing, the change in the cost of operation is equivalent to variable cost due to fixed cost components fixed irrespective of output level.

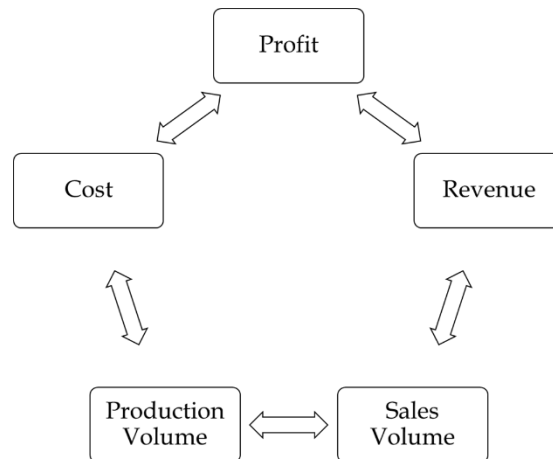
10.2 Cost-Volume-Profit (CVP) Analysis: Introduction

It establishes the relationship between costs, the volume of production/sales & profits. It shows how operating income changes with changes in output level, selling prices, variable costs, or fixed costs.

It is the study of the effects on future profit of changes in fixed cost, variable cost, sales price, quantity and mix'. (CIMA)

Inter-relations

The cost-volume-profit (CVP) analysis helps management find out the relationship between costs and revenues to profit. An undertaking aims to earn profit. Profit depends upon many factors, the most important of which are the cost of manufacture and sales volume. Both these factors are interdependent-volume of sales depending upon the volume production, which is related to costs.



Source: Author

Factors affecting cost are:

- The volume of production;
- Product-mix;
- Internal efficiency;
- Methods of production; and
- Size of the plant, etc.



Notes:

Of all these, volume is perhaps the most significant single factor influencing costs, divided into fixed costs and variable costs. Volume changes in a business are frequent, often necessitated by outside factors over which management has no control. As costs do not always vary in proportion to changes in output levels, management control of the volume factors presents a peculiar problem.

As profits are affected by the interplay of costs and volume, the management must have, at its disposal, an analysis that can allow for a reasonably accurate presentation of the effect of a change in any of these factors, which would have no profit performance. Cost-volume-profit analysis furnishes a picture of the profit at various levels of activity.

Cost-Volume-Profit Analysis: Consideration

Analysis of cost-volume-profit involves consideration of the interplay of the following factors:

- The volume of sales;
- Selling price;
- Product mix of sales;
- Variable costs per unit; and
- Total fixed costs

Cost-Volume-Profit Analysis: Assumptions

The following are the basic assumptions of Cost-Volume-Profit analysis:

- All costs can be classified into Fixed cost and Variable cost.
- Revenue and cost functions are linear.
- Fixed costs, Selling Price and Variable cost per unit are known and constant.
- The sales mix is assumed to remain constant if more than one product is sold.
- The time value of money is ignored.

Cost-Volume-Profit Analysis: Objectives

The following are the objectives of Cost-Volume-Profit analysis:

- To forecast profit accurately.
- To set flexible budgets which indicate costs at various levels of activity.
- To assist in performance evaluation for control.
- To assist in formulating pricing policies.
- To know the amount of overhead costs that could be charged to product costs at various operations levels.

Cost-Volume-Profit Analysis: Uses

- It helps in forecasting costs and profits as a result of a volume change.
- It helps fix a sales volume level to earn or cover a given revenue, return on capital employed, or dividend rate.
- It assists in the determination of the effect of change in volume due to plant expansion or acceptance of an order, with or without an increase in costs.
- It helps in determining the relative profitability of each product, line, project, or profit plan.
- It assists in making an inter-firm comparison of profitability.
- It helps assess cash requirements at a desired volume of output with the help of cash break-even charts.

Cost-Volume-Profit Analysis: Applications

Cost-Volume-Profit analysis helps the management to undertake the following decisions:

1. Profit planning
2. Evaluation of Performance
3. Make or Buy Decisions
4. Closure of a Department or Discontinuance of a Product
5. Maintaining a Desired Level of Profit
6. Offering Quotations
7. Accepting an Offer or Exporting below Normal Price
8. Alternative Use of Production Facilities
9. Problem of Key Factor
10. Selection of a Suitable Product Mix

Elements of CVP Analysis

The following are the critical elements of CVP analysis:

- Marginal cost equation
- Contribution Margin

- Profit-Volume Ratio
- Break-even point
- Margin of Safety

Marginal cost equation

As we know, Sales - Cost = Profit

or Sales - (Fixed cost + Variable Cost) = Profit

or Sales - Variable cost = Fixed Cost + Profit

It is known as the Marginal Cost Equation. We can convey it as under:

$$\begin{aligned} \text{Sales} - \text{Variable cost} &= \text{Fixed Cost} + \text{Profit} \\ S - V &= F + P \end{aligned}$$

Contribution Margin

- It is the difference between Total Sales and Marginal cost/Variable Cost.
- It contributes towards fixed expenses and Profit.

Formulae:

- Contribution = Total sales less Total variable costs
- Contribution per unit = Selling price per unit less variable costs per unit
- Contribution = Contribution per unit x number of units sold
- Contribution = Fixed Cost + Profit
- Contribution = Fixed Cost - Loss

Scenarios

- Selling price containing profit:

Contribution = Fixed cost + Profit

- Selling price at a cost:

Contribution = Fixed cost

- Selling price at Loss:

Contribution = Fixed cost - Loss



Example:

Romeo disks manufacture one particular type of disk. It has provided you with the following essential information, calculate Contribution per unit and Total Contribution.

Selling price per unit ₹ 30

Variable cost per unit ₹18

Units sold 15,000

Solution:

$$\begin{aligned} \text{Contribution (in units)} &= \text{Selling Price per unit} - \text{Variable Cost per unit} \\ &= ₹ (30 - 18) \\ &= ₹ 12 \end{aligned}$$

$$\begin{aligned} \text{Total Contribution} &= \text{Contribution per unit} \times \text{Units sold} \\ &= ₹ 12 \times 15000 \end{aligned}$$

$$= ₹ 1,80,000$$



Example:

Mango candies makes and sells a special type of Mango candy for kids. It has provided with you the following information, Calculate Profit.

Contribution = ₹ 1,80,000

Fixed Cost = ₹ 1,16,000

Solution:

Profit = Contribution – Fixed Cost

$$= ₹ 1,80,000 - ₹ 1,16,000$$

$$= ₹ 64,000$$

Profit-Volume Ratio/ P/V Ratio

The ratio or percentage of contribution margin to sales is known as the P/V ratio. This ratio is known as marginal income ratio, contribution to sales ratio, or variable profit ratio. P/V ratio, usually expressed as a percentage, is the rate at which profits increase with the increase in volume. It is used for studying the profitability of operations of the business.

$$\text{P/V ratio} = \text{Marginal contribution/Sales}$$

Or

$$\text{Sales value} - \text{Variable cost/Sales value}$$

Or

$$1 - \text{Variable cost/Sales value}$$

Or

$$\text{Fixed cost} + \text{Profit/Sales value}$$

Use of P/V ratio

- A comparison of P/V ratios of different products can be made to determine which product is more profitable.
- The higher the P/V ratio, the more the profit will be, and the lower the P/V ratio, the lesser the profit.

How can the P/V ratio be improved?

P/V ratio can be improved by:

- Increasing the selling price per unit.
- Reducing direct and variable costs by effectively utilizing men, machines, and materials.
- Switching the production to more profitable products showing a higher P/V ratio



Example:

Bob, the sugar candy seller, has provided you with the following information. You are required to calculate P/V Ratio and Variable Cost from the same.

Selling price per unit ₹ 30

Contribution per unit ₹ 18

Solution:

P/V Ratio = (Contribution/Sales)*100

$$= (₹ 18/₹ 30)*100$$

$$= 60\%$$

$$\begin{aligned}\text{Variable Cost per unit} &= \text{S.P.} - \text{Contribution} \\ &= ₹ 30 - ₹ 18 \\ &= ₹ 12\end{aligned}$$

$$\begin{aligned}\text{Variable Cost Ratio} &= 100 - \text{P/V Ratio} \\ &= 100 - 60 \\ &= 40\%\end{aligned}$$

$$\begin{aligned}\text{Hence, V.C} &= 40\% * \text{S.P.} \\ &= 40\% * 30 = ₹ 12\end{aligned}$$

Break-even point

The break-even point in any business is that point at which the volume of sales or revenues exactly equals total expenses or the point at which there is neither a profit nor loss under varying levels of activity

- Point where Total sales = Total costs
- Point of No Profit and No Loss
- At this point, contribution = Fixed costs

Break-even Analysis

Break-even analysis examines the relationship between the firm's total revenue, total costs, and total profits at various output levels. It is used to determine the sales volume required for the firm to break even and the total profits and losses at other sales levels. The point at which total fixed and variable costs are equal to total revenues is known as the break-even point. At the break-even point, a business does not make a profit or loss. Therefore, the break-even point is often referred to as the "no-profit" or "no-loss point."

The break-even analysis is essential to business owners and managers in determining how many units (or revenues) are needed to cover fixed and variable expenses of the business.

A break-even analysis indicates at what level cost and revenue are in equilibrium.

- Martz, Curry, and Frank

Formulae:

$$\begin{aligned}\text{a) Break-even point (in units)} \\ &= \frac{\text{Total Fixed Cost}}{\text{Selling Price per unit} - \text{Variable cost per unit}} \\ \text{b) Break-even point (in rupees)} \\ &= \frac{\text{Total Fixed Cost}}{\text{Profit Volume Ratio}}\end{aligned}$$

Application of Break-even analysis

Break-even analysis is a very generalized approach for dealing with various questions associated with profit planning and forecasting. Some of the essential practical applications of Break-even analysis are:

- What happens to overall profitability when a new product is introduced?
- What level of sales is needed to cover all costs and to earn the desired rate of return?
- What happens to overall profitability if a company purchases new capital equipment or incurs higher or lower fixed or variable costs?
- What happens to revenues and costs if the price of one of a company's products is changed?
- What are the revenue and cost implications of changing the process of production?
- Between two alternative investments, which one offers the higher margin of profit (safety)?
- Should one make, buy or lease capital equipment?

- h) It helps to determine the remaining/unused capacity of the company once break-even is reached. It will help to show the maximum profit on a particular product/service that can be generated.
- i) It helps determine the impact on profit on changing automation from manual (a fixed cost replaces a variable cost).
- j) It helps to determine the change in profits if the price of a product is altered.
- k) It helps to determine the amount of losses that could be sustained if there is a sales downturn.

When is Break-even analysis used?

- Starting a new business
- Creating a new product
- Changing the business model



Notes:

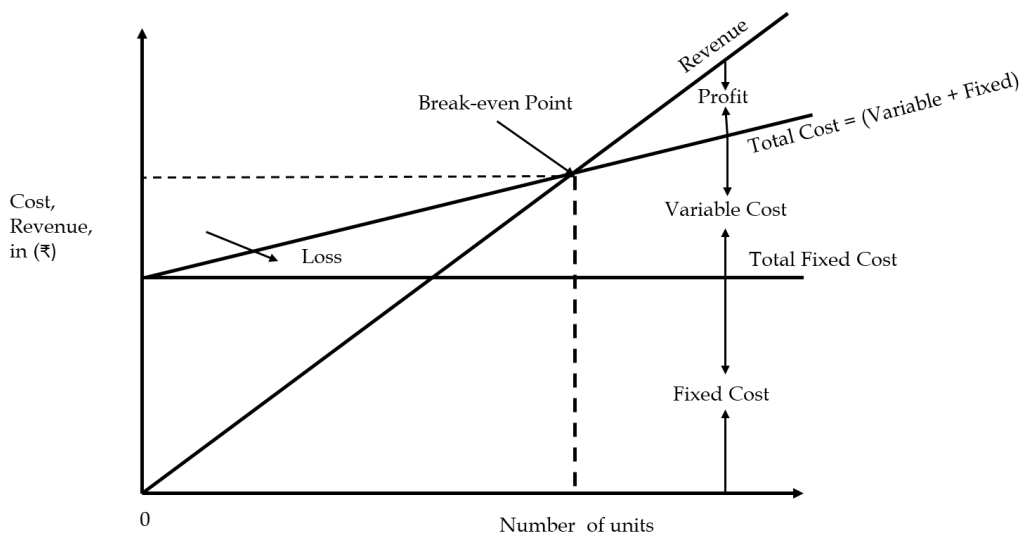
Starting a new business: To start a new business, a break-even analysis is a must. It helps decide whether the idea of starting a new business is viable, but it will force the startup to be realistic about the costs and provide a basis for the pricing strategy.

Creating a new product: In an existing business, the company should still perform a break-even analysis before launching a new product—particularly if such a product will add a significant expenditure.

Changing the business model: If the company is about to change the business model, like, switching from wholesale business to retail business, then a break-even analysis must be performed. The costs could vary considerably, and a break-even analysis will help in setting the selling price.

Graphical Presentation of Break-even analysis

The following figure is showing the graphical presentation of the Break-even point.



Source: Author



Notes:

In the above figure, total revenues and total costs are plotted on the vertical axis, whereas output or sales per period are plotted on the horizontal axis. The slope of the TR curve refers to the constant price at which the firm can sell its output. The TC curve indicates Total Fixed Costs (TFC) (The

vertical intercept) and a constant average variable cost (the slope of the TC curve). This is often the case for many firms for small changes in output or sales. The firm breaks even (with $TR=TC$) at Q1 (point B in the figure) and incurs losses at smaller outputs while earning profits at higher output levels.



Caution

Where the total cost line cuts the revenue line, that point turns into a Break-even point. At the Break-even point, the company will neither incur loss nor earn profit.

Interpretation of Break-even Analysis

- Profit when Revenue > Total Variable cost + Total Fixed cost
- Break-even point when Revenue = Total Variable cost + Total Fixed cost
- Loss when Revenue < Total Variable cost + Total Fixed cost



Example:

From the following information, calculate break – even point in units and in rupees:

Output = 3000 units

Selling price per unit = ₹ 30

Variable price per unit = ₹ 20

Total fixed cost = ₹ 20000

Solution:

$$\begin{aligned} \text{B.E.P (in units)} &= \text{Total Fixed Cost/Contribution per unit} \\ &= 20000/10 \\ &= 2000 \text{ units} \end{aligned}$$

$$\begin{aligned} \text{B.E.P (in ₹)} &= \text{Total Fixed Cost/P/V Ratio} \\ &= 20000/33.33\% \\ &= ₹ 60,000 \end{aligned}$$

or

$$\text{Break Even Sales} \times \text{S.P./unit} = 2000 \times 30 = ₹ 60,000$$



Example:

The sales and profit are given for two years:

Year	Sales (₹)	Profit (₹)
2019	1,40,000	15,000
2020	1,60,000	20,000

You are required to calculate :

- P/V Ratio
- Sales required to earn the profit of ₹ 40,000
- Profit when sales are ₹ 120,000

Solution:

a) P/V Ratio

$$\begin{aligned}
 &= (\text{Change in Profit} / \text{Change in Sales}) * 100 \\
 &= (5000 / 20000) * 100 \\
 &= 25\%
 \end{aligned}$$

b) Sales required to earn the profit of ₹ 40,000

$$\begin{aligned}
 \text{Contribution} &= \text{Sales} * \text{P/V ratio} \\
 &= 1,60,000 * 25\% \\
 &= ₹ 40,000
 \end{aligned}$$

Fixed Cost = Contribution - Profit

$$= 40,000 - 20,000 = ₹ 20,000$$

Desired Sales = $(20,000 + 40,000) / 25\% = ₹ 2,40,000$

c) Profit when sales are ₹ 1,20,000

$$\begin{aligned}
 \text{Contribution} &= ₹ 1,20,000 * 25\% \\
 &= ₹ 30,000
 \end{aligned}$$

Profit = Contribution - Fixed Cost

$$\begin{aligned}
 &= ₹ 30,000 - ₹ 20,000 \text{ (calculated before)} \\
 &= ₹ 10,000
 \end{aligned}$$

Margin of Safety

The margin of safety is the difference between the actual sales and Break-even sales. Sales beyond break-even volume bring in profits. Such sales represent a margin of safety. It is calculated as follows:

a) Total Sales - Break-even sales

b) $\frac{\text{Profit}}{\text{PV Ratio}}$

c) $\frac{\text{Margin of safety}}{\text{Total Sales}} \times 100$

The margin of safety may be improved by taking the following steps:

- By lowering fixed costs.
- By decreasing the variable costs to improve marginal contribution.
- By increasing the volume of sales, if there is unused capacity.
- By increasing the selling price, if market conditions permit, and
- By changing the product mix to improve contribution.

*Example:*

From the following information, calculate:

Margin of safety

Particulars	Amount (₹)
Total sales	360,000
Selling price per unit	100
Variable price per unit	50
Fixed cost	100,000

Solution:

Break Even Sales = $1,00,000/50 = 2000$ units

Break Even sales (₹) = $2000 \times 100 = ₹2,00,000$

Margin of Safety (₹) = Actual sales - Break even sales

= $₹3,60,000 - ₹2,00,000$

= ₹1,60,000

*Case Study***A Case Study on A Re-look at Break-Even Analysis**

M/s Innovative Ventures Private Limited (a manufacturing company) currently manufactures various products, and their product portfolio essentially comprises cosmetics and toiletries. Their products particularly appeal to a select group of quality-conscious customers in the high-income category. The superior quality of their products had been instrumental in positioning their company as a dominant market player so far as their current product range is concerned. Over the years, the said company had successfully applied a simple yet effective business model which involves the following steps:

- Conduct a detailed market survey to identify the "gaps" that exist in the cosmetics and toiletries sector coupled with a detailed analysis of prospective future demand that may emerge in case such "gap" is addressed
- Innovate, design, develop & launch a product that would fulfill such "gap."
- Swiftly capture the market comprising target customers through aggressive advertising and marketing clout.

Such marketing and operating strategies had proved to be highly influential over the years. The same had been appropriately reflected in terms of impressive growth in the company's top line, bottom line, and operating cash flows.

However, of late, the last two product launches failed to fetch the desired results. In fact, the company had experienced adverse impact on their bottom line and operating cash flow performances in these two instances. Naturally, these two product launches involved a substantial quantum of initial investments, and the final outcome could not justify the productivity of such investments. The company had undertaken a post mortem analysis of such failures and tried its level best to identify the root causes that culminated in such dismal performances. Such a post mortem study essentially hinted at the wrong estimation of prospective future demand and the inability to visualize and mitigate a few operational risks inherent in such investment options as the primary reasons for failure. Having burned their fingers with these two product launch experiences, the company's senior management had consciously decided to be more cautious in respect of future product launches.

Currently, Mr. Dasgupta (the company's CEO) is toying with another fresh proposal of a product launch that essentially appears very attractive at first glance. However, he had already learned from his past experiences that an investment proposal that looks very "rosy" at the inception stage might result in disastrous consequences as well. Moreover, by this time, Mr. Dasgupta also understands and appreciates that once a capital investment fails to deliver the desired results and the venture translates into failure – the exit options become pretty limited, which in turn magnifies the monetary losses making the situation even worse than anticipated.

Mr. Dasgupta distinctly recalls that the failure of the previous two product launches was essentially attributed to the "over-estimation" of product prospects in terms of their market

demand, revenue and profit generation possibilities, etc. Because of the same, Mr. Dasgupta contacted Ms. Bose (the Finance Manager) and requested her to develop a "worst-case" scenario regarding the fresh proposal about the new product launch in consultation with the Production and Marketing Divisions of the company. He had also clarified (to her) that this "worst-case" scenario is required to counter the "overestimation" phenomenon that had occurred in the previous two product launch circumstances that had adversely affected the final outcome. Ms. Bose had since worked on the said proposal and developed such "worst-case" scenario (as per the advice of the CEO) in consultation with the concerned personnel of various departments of the company and her estimations are provided in Exhibit I (enclosed) for ready reference.

Mr. Dasgupta studied the "worst-case" scenario as developed by Ms. Bose (in-depth). He commented that it appears that she had missed out on the "working capital investments" aspect that may be specifically required in the instant case. However, Ms. Bose opined that the "working capital investments" that may be specifically attributable to the case under review might be regarded as "negligible" due to the following reasons:

(a) As the company intends to operate on a "cash and carry" basis so far as this new product is concerned, the investment in debtors may be ignored altogether.

(b) So far as this new product is concerned, the production schedule would only be developed based on orders received from prospective customers and, hence, the investments in finished goods inventory would be negligible as well.

(c) Moreover, the raw material required for producing this new product is readily available from suppliers. Hence, lead time in delivering raw material is not a crucial consideration in the instant case. Therefore, the company would operate the "just-in-time" model so far as raw material inventory management issues are concerned. Hence, there is no need to provide for investments in raw material inventory in the proposal under review.

Mr. Dasgupta was pretty impressed (instead, convinced) with the arguments provided by Ms. Bose, and they both agreed that the crucial parameter that needs to be thoroughly examined before going ahead with the said product launch happens to be the "minimum average annual market demand" of this new product. Thus, naturally, the next assignment to be undertaken is a detailed market survey/demand analysis exercise to assess the prospective future demand of such a new product in the market.

Ms. Bose commented that while the marketing team undertakes such market survey/demand analysis assignment, she would simultaneously undertake a simple exercise of computing the "break-even point (in units)" based on the "worst-case" financial estimates as already developed by her. She explained that if the outcome of the market survey report finally suggests that the "average annual market demand" of the product would exceed the "break-even level" (to be computed by her, shortly) comfortably, the product launch (as currently being contemplated by the CEO) is bound to succeed. Mr. Dasgupta naturally saw a lot of merit in the approach suggested by Ms. Bose and requested her to undertake such a "break-even analysis" exercise. He agreed that this exercise might aid in visualizing and ascertaining the crucial operating risk exposure of the proposal under review.

Ms. Bose had since conducted a simple break-even analysis (based on the "worst-case" financial estimates) and generated the "break-even" information as well. Such "break-even analysis" is provided in Exhibit II (enclosed) for ready reference. Once Mr. Dasgupta observed that the new product would break even at average annual demand of 7 lakh units, he instructed his marketing team to undertake a detailed market survey/demand analysis exercise. He specifically requested their team to spell out the minimum anticipated annual demand of the product under a "worst-case scenario" as well. The marketing team duly conducted the market survey, and critical information obtained from their report is provided as :

(a) Average Annual Market Demand would range between 9 to 10 lakhs units

(b) Even in the "worst-case scenario," annual demand would amount to 8 lakh units

Mr. Dasgupta was pleased with the outcome of the market survey report because he realized that the new product launch is sure to succeed.

The evening before he was officially expected to give clearance to the new product launch proposal, a relieved Mr. Dasgupta was attending an informal get-together where he happened to meet one

Mr. Basak is a renowned freelance financial consultant by profession. In the conversation, Mr. Dasgupta cited the above case facts to Mr. Basak while clarifying how he tried to visualize, ascertain and address the risk exposure of a real-life project. The case facts naturally interested Mr. Basak, and fortunately, Mr. Dasgupta still had the papers available with him in his attaché case, which he readily shared with Mr. Basak. Mr. Basak studied the case related documents for half an hour or so and commented:

"Mr. Dasgupta, I suggest that you give a second thought before clearing the proposal tomorrow morning. Since you and your entire team had heavily stressed the worst-case scenario while evaluating the proposal, I guess that possibility of such a scenario emerging may not be ruled out altogether. I can tell you one thing for sure. In such a worst-case scenario, your project won't break even at 7 lakh Units at all.

A conceptual limitation characterizes the break-even analysis conducted by your finance manager because it happens to ignore one crucial – yet significant – "cost" concerning the project under review. Therefore, the break-even figure of 7 lakh Units that your finance manager had arrived at has distorted the reality. As per my guess, the actual break-even for this project (under the worst-case scenario) is far higher than 7 lakh Units. Such break-even would exceed the minimum market demand of 8 lakh units of the new product (under the worst-case scenario) as captured in your market survey report."

List of Review Questions

- Do you agree with Mr. Basak that the break-even of 7 lakh Units as arrived at by the finance manager depicts distorted reality?
- In case you agree with the views expressed by Mr. Basak, please clarify the conceptual limitation that the break-even analysis is given in Exhibit II suffers from.
- Mr. Basak had also commented that the break-even analysis provided in Exhibit II actually ignores one crucial – yet significant – "cost" concerning the project. What "cost" is he referring to?
- Suggest an alternative method of arriving at a more reliable break-even number and compute such break-even sales (in units).

Exhibit I: New Product Launch – The Proposal (The "Worst-Case" Scenario – Estimated Financials)

Capital Investment Required	₹ 20 Crores
Useful Life of the Capital Asset (Estimated Salvage Value – ZERO)	10 Years
Depreciation Policy (As would be allowed by IT Authorities in the instant case)	Straight Line
Effective Tax Rate	35%
Mode of Financing of the above capital I investment	Internal Accruals
Expected Returns of Equity Investors	18%
Selling Price Per Unit of this new product (Minimum)	₹ 500
Variable Cost Per Unit (Maximum)	₹ 400
Attributable Annual Fixed Cost – Other than Depreciation (Maximum)	₹ 5 Crores
Annual Average Market Demand of this New Product (In Units)	Subject to Market Survey

Exhibit II: New Product Launch – Break-Even (Based on the "Worst-Case" Estimated Scenario)

Details	Level of Operation – New Product		
	4 lakh units (₹ lakhs)	7 lakh units (₹ lakhs)	9 lakh units (₹ lakhs)
Revenue (@ ₹ 500)	2000	3500	4500
Variable Cost (@ ₹ 400)	(1200)	(2800)	(3600)
Contribution	400	700	900
Attributable Fixed Costs	(500)	(500)	(500)

Depreciation Charges	(200)	(200)	(200)
Profit Before Tax (PBT)	(300)	0	200
(Tax Charge)/Tax Savings	105	0	(70)
Profit After Tax (PAT)	(195)	0	130
BE Level			
Break-even Sales (in units)	7 lakhs units		
Break-even Sales (in ₹)	₹ 3500 lakhs		
Source: https://icmai.in/Knowledge-Bank/upload/case-study/2012/Case-Study.pdf			

Summary

- Marginal costing is one of the essential tools of management to make decisions and fix an appropriate price and assess the level of profitability.
- Marginal cost refers to a change that occurred in the total cost due to a slight change in the quantity produced.
- The cost-volume-profit analysis is a tool to show the relationship between various ingredients of profit planning.
- The crucial step in this analysis is the determination of the break-even point.
- BEP is defined as the sales level at which the total revenue equals total cost.

Keywords

Break-even Point (in units): The number of units sold at which the firm neither incurs a loss nor earns a profit.

Break-even Point (in Volume): The level of sales in Rupees at which the firm neither incurs a loss nor earns a profit.

Contribution: It is an amount of balance available after the deduction of variable cost from the sales.

CVP analysis: It establishes the relationship between costs, the volume of production/sales & profits. It shows how operating income changes with changes in output level, selling prices, variable costs, or fixed costs.

Marginal Cost: Change occurred in the cost of operations due to a change in production level.

Margin of Safety: It is the difference between actual sales and break-even sales.

PV Ratio: It shows the relation between the contribution and sales. It can be calculated in absolute terms or percentage.

Self-Assessment

1. CVP analysis establishes the relationship between:

- Cost, Volume, and Profit
- Cost, Value, and Profit
- Cost, Volume, and Production
- Cost, value, and Production

2. CVP analysis shows how operating income changes with changes in:

- Output level
- Selling prices
- Variable costs, or fixed costs
- All of above

3. The following is/are the assumption of CVP analysis:

- All costs cannot be classified into Fixed cost and Variable cost.

- b) Revenue and cost functions are non-linear.
 - c) Fixed costs, Selling Price and Variable cost per unit are known and constant.
 - d) Time Value of money is considered.
4. The following is not considered as the assumption of CVP analysis:
- a) All costs can be classified into Fixed cost and Variable cost.
 - b) Revenue and cost functions are non-linear.
 - c) Fixed costs, Selling Price and Variable cost per unit are known and constant.
 - d) The sales mix is assumed to remain constant if more than one product is sold.
5. The following is/are the objective/s of CVP analysis:
- a) To assist in formulating pricing policies.
 - b) To set flexible budgets which indicate costs at various levels of activity.
 - c) To assist in performance evaluation for control.
 - d) All of above
6. Bread Basket has started a business venture of making and selling loaves of bread in Amritsar. It has incurred ₹ 1,00,000 as a fixed cost and ₹ 3,00,000 as the variable cost to manufacture various types of bread in different quantities. The owner of Bread Basket is not getting the financial position of his venture. Suggest him when his business will be reaching its Break even.
- a) When its revenue will equate to Fixed cost
 - b) When its revenue will equate to variable cost
 - c) When its revenue will equate to Total Cost
 - d) When its revenue will equate to Contribution
7. Loaf King has started a business venture of making and selling loaves of bread in Phagwara. It has incurred ₹ 2,00,000 as a fixed cost and ₹ 5,00,000 as a variable cost to manufacture various types of bread in different quantities. The owner of Loaf King is not getting the financial position of his venture. Suggest him when his business will be reaching its Break even.
- a) When its revenue will be ₹ 2,00,000
 - b) When its revenue will be ₹ 5,00,000
 - c) When its revenue will be ₹ 7,00,000
 - d) When its revenue will be ₹ 3,75,000
8. The following is the correct Marginal cost Equation:
- a) Sales - Variable Cost = Fixed Cost + Profit
 - b) Sales + Variable Cost = Fixed Cost - Profit
 - c) Sales + Variable Cost = Fixed Cost + Profit
 - d) Sales - Variable Cost = Fixed Cost + Loss
9. What will be the contribution per unit if the Selling price per unit ₹ 35, Variable cost per unit ₹ 15, and Fixed cost per unit ₹ 5?
- a) ₹ 20
 - b) ₹ 15
 - c) ₹ 30
 - d) ₹ 35
10. P/V ratio can be improved by:
- a) Decreasing the selling price per unit.
 - b) Increasing direct and variable costs by effectively utilizing men, machines, and materials.
 - c) Switching the production to more profitable products showing a higher P/V ratio

d) All of above

11. From the following information, calculate the break-even point in units: Output = 2000 units, Selling price per unit = ₹ 40, Variable price per unit = ₹ 30, Total fixed cost = ₹ 20000

- a) 2000 units
- b) 1000 units
- c) 3000 units
- d) 1500 units

12. The margin of safety may be improved by taking the following step/s:

- a) Increasing Fixed cost
- b) Increasing Variable cost
- c) Increasing Volume of Sales
- d) Decreasing the selling Price

13. A company will be earning Profit when

- a) Revenue > Total Variable cost + Total Fixed cost
- b) Revenue = Total Variable cost + Total Fixed cost
- c) Revenue < Total Variable cost + Total Fixed cost
- d) Revenue < Total Variable cost – Total Fixed cost

14. Higher the P/V ratio of a product signifies:

- a) More is the Profit per product
- b) Less is the Profit per product
- c) More is the Cost per product
- d) More is the Volume per product

15. When Contribution = ₹ 2,80,000, Variable Cost = ₹ 1,80,000 and Fixed Cost = ₹ 2,16,000, What will be Profit?

- a) ₹ 64,000
- b) ₹ 1,00,000
- c) ₹ 36,000
- d) ₹ 72,000

Review Questions

1. Illustrate the interrelation of Cost, Volume, and Profit through CVP analysis.
2. List the assumption of CVP analysis.
3. Explain the use and application of CVP analysis.
4. Explain the components of CVP analysis.
5. What is a break-even point? Give the assumptions and use of break-even analysis.
6. Explain the following terms:
 - a) Contribution
 - b) P/V ratio
 - c) Margin of Safety
7. Illustrate the graphic approach of BEP analysis.
8. M/S Sumitra ltd, has provided you with the following details.
Selling Price ₹ 125 per unit
Variable cost ₹ 50 per unit

Fixed Cost ₹ 500000

The number of units sold during the year was 14000.

You are required to calculate:

- a) Contribution
- b) P/V ratio
- c) Break-even point in units
- d) Break-even point in rupees
- e) Margin of Safety in units
- f) Margin of Safety in rupees.
- g) Selling price per unit if break-even point is 18000 units.

8. Calculate variable cost and profit from the following information:

Sales 8000 units @ ₹ 10 per unit

Break-even sales 3000 units

Fixed Cost ₹ 6000

9. The following data is given:

Sales ₹ 800000

Variable Cost ₹ 480000

Fixed Cost ₹ 120000

Calculate:

- a) Break-even point
- b) New break-even point if the selling price is reduced by 10%
- c) New break-even point if the variable cost is increased by 10%
- d) New break-even point if the fixed cost is increased to ₹ 150000

10. The following information is given:

Sales = ₹ 2,00,000

Variable Cost = ₹ 1,20,000

Fixed Cost = ₹ 30,000

Calculate:

- a) Break-even point
- b) Margin of safety

11. The sales and Profit during last two years are given below:

	Sales (₹)	Profit (₹)
Year 2019	20,00,000	2,00,000
Year 2020	30,00,000	4,00,000

The fixed cost is ₹ 2,00,000. It remained the same in both years

Calculate

- a) Break-even Point
- b) Sales required to earn a profit of ₹ 5,00,000

12. Camay Soap Ltd. made sales of ₹ 1,50,000 that produced a profit of ₹ 4,000 in 2020. It was able to earn sales of ₹ 1,90,000 and a profit of ₹12,000 in 2021. Determine the BEP for Camay Soap Ltd.

13. There are two businesses, Dull Ltd. and Youth Ltd., selling identical products in the market. The following are the budget figures related to a particular year.

	Dull Ltd.	Youth Ltd.
Sales	5 lakh	5 lakh
Variable cost	4 lakh	3.5 lakh
Fixed costs	0.5 lakh	1 lakh
Profit	0.5 lakh	0.5 lakh

You are requested to calculate BEP for the two businesses.

14. Mokash Pvt. Ltd. produces a simple article and sells it at 100 each. The cost of production is ₹ 60 per unit and the fixed cost ₹ 40,000 per annum. Calculate:

- P.V(ratio)
- BEP (sales)
- Sales to earn a profit of ₹ 50,000
- Profit at a sale of ₹3,00,000
- New BEP when the Selling price is reduced by 10%

Answers: Self-Assessment

1	A	2	d	3	c	4	b	5	d
6	C	7	c	8	a	9	a	10	c
11	A	12	c	13	a	14	a	15	a

Further Readings



Books

- FUNDAMENTALS OF COST ACCOUNTING by WILLIAM N. LANEN, SHANNON W. ANDERSON, MICHAEL W. MAHER, MCGRAW HILL EDUCATION
- MANAGEMENT ACCOUNTING by SHAH PARESH, OXFORD UNIVERSITY PRESS
- A TEXTBOOK OF ACCOUNTING FOR MANAGEMENT by MAHESHWARI. SN, MAHESHWARI SHARAD.K, MAHESHWARI SUNEEL.K, VIKAS PUBLISHING HOUSE
- ACCOUNTING FOR DECISION MAKING by NEEDLES BELVERD. E, CENGAGE LEARNING
- FINANCIAL ACCOUNTING FOR MANAGEMENT: AN ANALYTICAL PERSPECTIVE by GUPTA AMBRISH, PEARSON



Online Links

https://saylordotorg.github.io/text_managerial-accounting/s10-how-is-cost-volume-profit-anal.html

<https://efinancemanagement.com/financial-analysis/cost-volume-profit-analysis>

<https://www.iedunote.com/cost-volume-profit-analysis>

<https://researchleap.com/cost-volume-profit-analysis-decision-making-manufacturing-industries-nigeria/>

<https://corporatefinanceinstitute.com/resources/knowledge/modeling/break-even-analysis/>

Unit 11: Decision involving Alternative Choices

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Objectives

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Summary

Keywords

Self Assessment

Answers for Self Assessment

Review Questions

Further Readings

Objectives

After studying this unit, you will be able to:

- explain the concept of decision making.
- discuss the various decisions that can be made through CVP analysis.
- assess the selling price per product or total sales to earn desired profit.
- compose a maximum profitable sales mix through CVP analysis.
- devise make or buy decisions and sales mix decisions when a key factor is given.
- devise decisions related to exploring new markets, continue or discontinue a product line, make or buy decisions, and sales mix to maximize overall business profits.

Introduction

The need for decision making arises in business because a manager is faced with a problem and alternative courses of action are available. A manager has to take different decisions like making or buying, continuing or shutting down, deciding about the sales mix, etc., to make the maximum profit. In deciding which option to choose, he will need all the information relevant to his decision; he must have some criterion based on which he can choose the best alternative. Some of the factors affecting the decision may not be expressed in monetary value. Hence, the manager will have to make 'qualitative' judgements, e.g., deciding which of two personnel should be promoted to a managerial position. A 'quantitative' decision, on the other hand, is possible when the various factors, and relationships between them, are measurable.

11.1 Concept and Steps involved in Decision Making

The marginal cost helps management to make a decision involving consideration of cost and revenue. Marginal costing furnishes information regarding additional costs to be incurred if an

additional activity is to be taken up or the saving in costs expected if an activity is given up. It can be compared with the benefit expected from the proposed course of action, and thus the management will be able to take the appropriate decision.

Decision-making describes the process by which a course of action is selected as the way to deal with a specific problem. A decision involves the act of choice and the alternative chosen out of the available alternatives.

"Decision-making is defined as the selection of a course of action from among alternatives."

- According to Heinz Weihrich and Horold Koontz

"Decision-making is a course of action which is consciously chosen for achieving the desired results."

- Haynes and Masie

"Decision-making is the selection based on some criteria from two or more possible alternatives."

- George R. Terry

Following are the essential areas of decision-making or applications of marginal costing:

1. Profit Planning
2. Key factor
3. Determination of Sales mix
4. Make or buy decisions
5. Exploration of new markets
6. Continue or Discontinue a product line
7. Fixation of Price,
8. Decision to Accept a Bulk Order,
9. Closure of a Department or Discontinuing a Product,
10. Evaluation of Performance, and
11. Alternative course of action.

11.2 Profit Planning

Profit planning is one of the essential functions of management. It relates to the attainment of maximum profit. Profit planning requires the management to have the proper knowledge of the inter-relationship of selling prices, sales volume, variable costs and fixed costs. Marginal costing helps the management ascertain the profit position at the various levels of operation through the technique of cost-volume-profit analysis. Thus, the management can plan its operations at the optimum level where profits are maximum.

Even the management may be interested in maintaining a desired level of profits. The marginal costing technique can ascertain the volume of sales needed to have a desired level of profits.



Example

A toy manufacturer makes an average net profit of ₹2.50 per piece on a selling price of ₹14.30 by producing and selling 60,000 pieces or 60% of the potential capacity. His cost of sales is:

	₹
Direct Material	3.5
Direct Labour	1.25
Work Overhead	6.25 (50% fixed)
Sales Overhead	0.8 (25% Variable)

He anticipates that his fixed charges will go up by 10% during the current year, while direct material and direct labour rates will increase by 6% and 8%, respectively. But, he has no option of increasing the selling price. Under this situation, he obtains an offer for an order equal to 20% of his capacity. The concerned customer is special.

What minimum profit will you recommend for acceptance to ensure the manufacturer an overall profit of ₹1,67,300?

Solution:

Particulars	Cost at Present in (₹)	Anticipated Cost in Current Year in (₹)
	60000	60000
Sales Value	858000	
Variable Cost		
Direct Material Per unit	3.5	3.71
Direct Labour Per unit	1.25	1.35
Work Overhead Per unit	3.125	3.125
Sales Overhead Per unit	0.2	0.2
Total Variable Cost Per Unit	8.075	8.385
Fixed Cost		
Work Overhead	187500	206250
Sales Overhead	36000	39600
Total Fixed Cost	223500	245850
Present Selling Price Per unit	14.3	14.3
Contribution Per Unit (S.P-V.C)	6.225	5.915
Contribution in (₹)	373500	354900
Profit (Contribution-Fixed Cost)	150000	109050
Profit desired in current year		167300
Increase in profit		58250

Sales in No. of units by increasing the Sales level by 20% =	20000 units
	₹
Additional Variable Cost of 20000 units (20000*8.385)	167700
Minimum Sales Price for 20000 additional units = (Variable cost of 20000 units+Increase in Profit)/20000	11.2975

*Example*

The following data relates to a manufacturing company:

Plant capacity: 4,00,000 units per annum

Present utilization: 40%

Actuals for the year were:

Selling Price	₹ 50 per unit
Material cost	₹ 20 per unit
Variable manufacturing cost	₹ 15 per unit
Fixed cost	₹ 27 lakhs

To improve capacity utilization, the following proposals are being considered.

- Reduce selling price by 10%
- Spend an additional ₹3 lakhs on sales promotion.

How many units should be made and sold to earn a profit of ₹5 lakhs per year?

Solution:

Particulars	₹
Revised selling price (₹50 less 10%)	45
Variable cost:	
Material cost	20
Variable manufacturing cost per unit	15
Total Variable cost	35
Contribution	10
Total Contribution required	
Fixed costs	2700000
Additional promotion expenses	300000
Profit	500000
Total	3500000

Total number of units to be made and sold to earn a contribution of ₹ 35,00,000

$$= \text{Total Contribution} / \text{Contribution per unit}$$

$$= ₹ 35,00,000 / 10 = 3,50,000 \text{ units}$$



Task

A business produces three products A, B and C, for which the standard variable costs and budgeted selling price are as follows:

	A	B	C
	₹	₹	₹
Direct Material	3	6	8
Direct Wages	4	4	10
Variable Overhead	3	5	7
Selling Price	18	25	48

In two successive periods, sales are as follows:

	A	B	C
	Units	Units	Units
Period I	10,000	10,000	10,000
Period II	20,000	13,000	5,000

The budgeted fixed overheads amounted to ₹1,35,000 for each period. Despite increased sales, the profit for the second period has fallen below that of the 1st period.

Present figures to management to show why this fall in profit should or should not have occurred.

11.3 Key factor

A key factor is that factor that puts a limit on the production and profit of a business. Usually, the limiting factor is sales. A concern may not be able to sell as much as it can produce. But, sometimes, a concern can sell all it produces, but production is limited due to the shortage of materials, labour, plant capacity, or capital.

In such a case, a decision has to be taken regarding the choice of the product whose production is to be increased, reduced or stopped. Ordinarily, when there is no limiting factor, the choice of the product will be based on the highest P/V ratio.

But when there are scarce or limited resources, the selection of the product will be based on contribution per unit of a scarce factor of production. In short, scarce resources should be utilized in those directions where contribution per unit of limited resources is the maximum.

In addition to limiting factors from the production side, limiting factors may also be difficulty in selling the items produced. In such a case ranking of items produced will be based on relative contribution per unit of limiting factor of production. Still, the number of units of a product to be produced getting rank one will be restricted to the number of units per demand for that product. Then the production of the other product getting the second rank will be done but restricted to sales demand if the balance of limiting factor is available.



Example

A company manufactures three products. The budgeted quantity, selling prices and unit cost are as follows:

	A	B	C
	(₹)	(₹)	(₹)
Raw Materials (@ ₹ 20 per kg)	80	40	20
Direct Wages (@ ₹ 5 per kg)	5	15	10
Variable overheads	10	30	20
Fixed overheads	9	22	18
Budgeted production (units)	6,400	3,200	2,400
Selling price per unit (in ₹)	140	120	90

Required:

- Present a statement of budgeted profit.
- Set an optional productmix and determine the profit if the supply of raw materials is restricted to 18,400 kg.

Solution:

(i) Statement of Budgeted Profit				
	A	B	C	Total (₹)
Budgeted production (units)	6400	3200	2400	
Selling price (₹)	140	120	90	
Sales	896000	384000	216000	1496000
Raw Materials	512000	128000	48000	
Direct Wages	32000	48000	24000	
Variable overhead	64000	96000	48000	
Total variable cost	608000	272000	120000	1000000
Contribution	288000	112000	96000	496000
Less: Fixed Cost	57600	70400	43200	171200
Profit				324800
(ii) When raw material is the key factor				
	A	B	C	
Raw material per unit of output	4 Kg	2 Kg	1 Kg	
Total raw material consumed (Kg)	25600	6400	2400	

Contribution per kg of raw material	11.25	17.5	40
	III	II	I

11.4 Determination of Sales Mix

In the market, the various companies offer dealerships to the individual intermediaries in promoting the sale of products. Before reaching an agreement with the company to act as a dealer, usually, every individual considers the profitability of the product mix offered by the firm. For example, two different companies brought forth their advertisements in offering the dealership to the individual trading firms viz. HCL and IBM.

The profitability under the dealership banner should be appropriately considered before taking a decision. To make a rational decision, the firm should compare the profitability of both different dealerships of two different giant industrial brands. The greater the share of the profitability in volume will be selected and vice-versa.



Example

The following production/sales mix/es are capable of producing in a factory:

- i) 2,000 units of Product A and 2,000 units of Product C.
- ii) 4,000 units of Product B.
- iii) 1,000 units of Product A, 2,000 units of Product B and 1,600 units of Product C.

Cost per unit is as follows:

	A	B	C
Direct Material (₹)	20	16	40
Direct Wages(₹)	8	10	20

Fixed Cost is ₹20,000 and Variable Overheads per unit of A, B, and C is ₹2, ₹4 and ₹8 respectively. Selling prices of A, B and C are ₹36, ₹40 and ₹100 per unit, respectively.

Determine the marginal contribution per unit of A, B and C and the profits resulting from product mixed i), ii) and iii).

Solution:

Marginal Cost Statement			
Per unit of products			
	A	B	C
	₹	₹	₹
Selling Price Per unit	36	40	100
Direct Material	20	16	40
Direct Wages	8	10	20
Variable Overheads	2	4	8
Total Variable Cost	30	30	68
Contribution Per unit	6	10	32

Statement Showing Comparative Profitability					
	Sales	Contribution (₹)	Total Contribution (₹)	Fixed cost (₹)	Profit (₹)
(i)	(A) 2,000 units	12,000			
	(B) 2,000 units	64,000	76,000	20,000	56,000
(ii)	(B) 4,000 units	40,000	40,000	20,000	20,000

(iii)	(A) 1,000 units	6,000			
	(B) 2,000 units	20,000			
	(C) 1,600 units	51,200	77,200	20,000	57,200

As Sales mix (iii) is most Profitable, thus it should be opted by company.

11.5 Make or Buy decision

The firms, which are routinely in need of spares, accessories are bought from the outsiders instead of any production or manufacturing, though the requirement is at regular intervals. Most automobile manufacturers usually buy the components from outside instead of producing them on their own. The MarutiUdyog Ltd. had given a contract to the Nettur Technical Training Foundation, Bangalore, to design the panel tool and manufacture it regularly to the tune of the orders.

The leading four-wheeler manufacturer in India is buying the panel from the NTTF on a contract basis instead of manufacturing.



Did u know? **Why don't they manufacture despite buying them from the NTTF?**

The main reason for buying is cheaper than the production of an article.

However, there are specific following costs and non-cost factors that must be taken into account before making a final decision.

1. The part of being bought should be available whenever needed, and at the same price, we consider buying it.
2. If there is a difference in quality, specification, etc., it must be workable of the component to be bought.
3. If production is not carried out, labour problems should not crop up. The surplus labour force should be absorbed in other productive work.



Example

A T.V. manufacturing company finds that while it costs to make component X, the same is available in the market at ₹5.75 each, with all assurance of continued supply. The breakdown of cost is:

	₹ (per unit)
Materials	2.75
Labour	1.75
Variable Overheads	0.5
Depreciation and other fixed cost	1.25
Total	6.25

Should the company make or buy the component?

What should be your decision if the supplier offered the component at ₹4.85 each?

Solution:

	₹
Marginal Cost per unit of Component X	
Materials	2.75
Labour	1.75
Variable Overheads	0.5
Total Variable Cost	5.00

- a) The purchase cost of the above component is ₹ 5.75 each. Suppose the company is having spare capacity, which cannot be filled with more remunerative jobs. In that case, it is

recommended that the above component be manufactured in the company since the marginal cost of ₹ 5.00 each is less than the purchase cost of ₹ 5.75.

- b) In the event of a purchase cost of ₹ 4.85, each being less than the marginal cost of ₹ 5.00 each, it is recommended that the component be bought from the supplier as this results in a saving of ₹ 0.15 each. The spare capacity thus available can be utilized for other purposes, as far as possible.

11.6 Exploration of New Markets

A decision regarding selling goods in a new market (whether Indian or foreign) should be taken after considering the following factors:

- (i) Whether the firm has the surplus capacity to meet the new demand?
- (ii) What price is being offered by the new market? In any case, it should be higher than the variable cost of the product plus any additional expenditure to be incurred to meet the specific requirements of the new market.
- (iii) Whether the sale of goods in the new market will affect the present market for the goods? It is particularly true in the sale of goods in a foreign market at a price lower than the domestic market price. Before accepting such an order from a foreign buyer, it must be seen that the goods sold are not dumped in the domestic market itself.



Example

The cost of a manufacturing company for the product is:

	₹
Material	12
Labour	9
Variable Expenses	6
Fixed Expenses	18
Total	45

The unit of product is sold for 51.00.

The company's normal capacity is 1,00,000 units. The figures given above are for 80,000 units. The company has received an offer for 20,000 units @ ₹36 per unit from a foreign customer.

Advice the manufacturer on whether the order should be accepted or rejected. Also, give your advice if the order is from a local merchant.

Solution:

Marginal Cost for additional 20,000 units		
	Per Unit	For 20,000 units
	₹	₹
Material	12	240000
Labour	9	180000
Variable Expenses	6	120000
Marginal Cost	27	540000
Additional revenue to be realized		720000
Marginal cost		540000
Net Additional revenue (Marginal contribution)		180000

The offer should be accepted because it gives an additional contribution of ₹1,80,000. The total profit will also increase by ₹1,80,000 because fixed expenses have already been recovered from the

local market. Furthermore, the order from the local customer should not be accepted at ₹36 per unit or any rate below the normal price, i.e., ₹ 45 because it will result in the general reduction of the product's selling prices.

Note: Acceptance of the additional order should not lead to production being more than the present capacity since, in that case, some fixed expenses may also go up substantially. If there is such an increase in fixed expenses, the increase should also be considered by including the total additional cost to be compared with the additional revenue.

11.7 Continue or Discontinue a Product Line

As discussed earlier, the marginal costing technique helps in deciding the profitability of a product. It provides the information that tells us how much each product contributes towards fixed cost and profit; the product or department that gives the most negligible contribution should be discarded except for a short period. If the management chooses some product out of the given ones, then the products giving the highest contribution should be chosen, and those giving the least should be discontinued.

The following factors should be considered before deciding the discontinuance of a product line:

- (i) The contribution given by the product
- (ii) The capacity utilization
- (iii) The product's availability to replace the product which the firm wants to discontinue and which is already accounting for a significant proportion of total capacity.
- (iv) The long-term prospects in the market for the product.
- (v) The effect on the sale of other products. In some cases, the discontinuance of one product may result in a sharp decline in sales of other products affecting the firm's overall profitability.



Example

A manufacturer has planned his level of operation at 50% of his plant capacity of 30,000 units. His expenses are estimated as follows if 50% of the plant capacity is utilized:

	₹
Raw Materials	8,280
Direct Wages	11,160
Variable overheads	3,960
Fixed overheads irrespective of capacity utilization	6,000

The expected selling price in the domestic market is ₹ 2 per unit. The manufacturer recently received a trade enquiry from an overseas organization interested in purchasing 6,000 units at a price of ₹1.45 per unit.

As a professional management accountant, what would be your suggestion regarding acceptance or rejection of the offer? Support your suggestion with relevant quantitative information.

Solution:

Profitability Statement					
	15000 units (For domestic sale)		6000 units (For export)		Total (21000 units)
	Total (₹)	Per Unit (₹)	Total (₹)	Per Unit (₹)	Total (₹)
Sales	30000	2	8700	1.45	38700
Raw Materials	8,280	0.552	3312	0.552	11592
Direct Wages	11,160	0.744	4464	0.744	15624
Variable overheads	3,960	0.264	1584	0.264	5544
Total Variable Cost	23,400	1.56	9360	1.56	32760
Contribution	6,600	0.44	-660	-0.110	5940

Less: Fixed Cost	6,000				6000
Profit/Loss	600				-60

The company should reject the offer as it gives an overall loss worth ₹60 to the company.

Summary

- The marginal costing technique helps determine the most profitable relationship between costs, prices and volume of business.
- Following are the critical areas of decision-making or applications of marginal costing:
 - ❖ Fixation of Price,
 - ❖ The decision to Make or Buy,
 - ❖ Selection of a Profitable Product Mix,
 - ❖ The decision to Accept a Bulk Order,
 - ❖ Closure of a Department or Discontinuing a Product,
 - ❖ Maintaining a Desired Level of Profit, and
 - ❖ Evaluation of Performance

Keywords

Decision-making: Decision-making describes the process by which a course of action is selected as the way to deal with a specific problem.

Desired Profit: It is a profit level desired by the firm to earn at the given sales volume level.

Fixed Cost: It is a cost that is fixed or remains the same irrespective level of production.

Key Factor: Factor of influence on the component of contribution.

Marginal Cost: Change occurred in the cost of operations due to a change in production level.

Self Assessment

1. An increase in fixed cost results in:
 - A. Increase in Margin of Safety
 - B. Increase in profit/volume ratio
 - C. Increase in the break-even point
 - D. Increase in contribution

2. Calculate Margin of Safety of Teddy Bar limited when its profit is ₹ 50,000; Contribution is ₹ 70,000 and Sales are ₹ 7,00,000.
 - A. ₹ 7,00,000
 - B. ₹ 2,00,000
 - C. ₹ 5,00,000
 - D. ₹ 2,00,000

3. "Blackberry" has a P/V ratio of 20%. It can earn actual sales of ₹ 37,500. It has calculated its Break Sales as ₹ 30,000. Calculate its variable cost.
 - A. ₹ 24,000
 - B. ₹ 30,000
 - C. ₹ 7,500
 - D. ₹ 6,000

4. Revlon Ltd. has provided you with the following information about its one lipstick brand, "Revlon Ultra HD Matte". Calculate the "Revlon Ultra HD Matte" break-even point.

Sales ₹ 2,00,000, Contribution ₹ 80,000, and Fixed Cost ₹ 30,000

- A. ₹ 75,000
- B. ₹ 50,000
- C. ₹ 88,000
- D. ₹ 82,500

5. Hero Cycle is in the business of manufacturing and selling Kids Cycles. Its sales were ₹ 2,40,000, and Contribution was ₹ 60,000. It was able to earn a profit of ₹ 16,000. Calculate Fixed Cost of Hero Cycle.

- A. ₹22,000
- B. ₹76,000
- C. ₹44,000
- D. ₹60,000

6. "Raymond" textile is selling its silk cloth per meter at ₹ 5,000. The Contribution margin per meter is ₹ 1,000. Calculate Contribution margin ratio:

- A. 12%
- B. 20%
- C. 5%
- D. 15%

7. "Arvind Mills" sells its silk cloth per meter at ₹ 8,000. The Contribution margin per meter is ₹ 2,000. Calculate Contribution margin ratio:

- A. 75%
- B. 25%
- C. 20%
- D. 40%

8. Calculate the Break-even Point of Hyundai Verna Ltd. when its Margin of Safety is 60%, and Actual Sales are ₹ 15,0000.

- A. ₹ 60,000
- B. ₹ 90,000
- C. ₹ 2,10,000
- D. ₹ 1,50,000

9. Bikes Freek is in the business of manufacturing and selling Kids Cycles. Its sales were ₹ 2,40,000 and ₹ 2,80,000 in 2019 and 2020 respectively. It was able to earn a profit of ₹ 16,000 and ₹ 26,000 in 2019 and 2020, respectively. Calculate Profit Volume ratio of Bikes Freek.

- A. 40%
- B. 25%
- C. 6.67%
- D. 9.28%

10. Calculate Margin of Safety of Hyundai Ltd. when its Break-even point is 60%, and Actual Sales are ₹ 1,20,000.

- A. ₹ 48,000
- B. ₹ 72,000
- C. ₹ 36,000
- D. ₹ 1,20,000

11. Havmor ice cream parlour is making four types. It is using the same ingredients (material) to make all four types of icecream. Identify which icecream should be given the least priority for manufacturing if materials are in short supply from the following data:

Offerings	Contribution per scoop	P/V ratio (in %)	Contribution per Material usage per scoop
Blue Berry	15	5	7.5
Honey Almond	10	8	10
Fig Almond	20	10	5
Banana Roast	18	9	6

- A. Blue Berry
- B. Honey Almond
- C. Fig Almond
- D. Banana Roast

12. Starbucks at Jalandhar offers various types of coffees. Look at the data given below and suggest manager which coffee should get produced and sold more to maximize profits from business:

Coffee Types	Contribution per Cup of Coffee	Profit Volume Ratio (in %)
Freshly Brewed Coffee	₹ 90	15
Crème Frappuccino	₹ 115	14
Espresso	₹ 80	16
Coffee Frappuccino	₹ 105	18

- A. Freshly Brewed Coffee
- B. Crème Frappuccino
- C. Espresso
- D. Coffee Frappuccino

13. Café Coffee day Ludhiana has provided you with the following data. The manager is under pressure to answer the owner of reduced profits from the business. Suggest to him with the help of given data, what should be done to increase the Business profits.

Sales Mix (Components)	Actual Daily production/Sales Volume (in units)	Daily Potential Demand (in units)	Profit Volume Ratio (in %)
Café Americano	30	30	12
Café Frappe	24	24	15
Café Latte	18	30	24

- A. Increasing the selling price of individual offerings
- B. Reducing the variable cost
- C. Reduce the fixed cost
- D. Change the sales mix

14. Amul ice cream parlour is making four types. It is using the same ingredients (material) to make all four types of icecream. Identify which icecream should be manufactured as per its maximum demand if materials are in short supply from the following data:

Offerings	Contribution per scoop	P/V ratio (in %)	Material usage per scoop
Blue Berry	15	5	2
Honey Almond	10	8	1
Fig Almond	20	10	4
Banana Roast	18	9	3

- A. Blue Berry
- B. Honey Almond
- C. Fig Almond
- D. Banana Roast

15. Kissan Jam Ltd. offers four different products to its customers. Details (per unit) are set out below:

	Mixed Fruit Jam (₹)	Pineapple Jam (₹)	Mango Jam (₹)	Orange Jam (₹)
Selling Price	40	65	85	100
Variable Costs	(20)	(30)	(45)	(70)
Fixed Cost	(10)	(10)	(25)	(25)
Machine Hours	3	7	10	10

The business can make and sell as many of each product as is possible. However, machine availability limits the ability of the business to produce the products. Which product should the business produce to maximize profits?

- A. Mixed Fruit Jam

- B. Pineapple Jam
- C. Mango Jam
- D. Orange Jam

Answers for Self Assessment

- 1 C 2 C 3 B 4 A 5 C
- 6 B 7 B 8 A 9 B 10 A
- 11 C 12 D 13 D 14 B 15 A

Review Questions

1. Souvenir Ltd. manufactures medals for winners of athletic events and other contests. Its manufacturing plant can produce 10,000 medals each month. The company has current production and sales level of 7,500 medals per month. The current domestic market price of the medal is ₹150.

The cost data for March 2020 is as under:

	(₹)
Raw materials	2,62,500
Direct wages	3,00,000
Variable costs (that vary with number of batches):	
Set-ups cost (160 batches x 500 per batch)	75,000
Fixed cost	
Manufacturing cost	2,75,000
Marketing cost	1,75,000

Souvenir Ltd. has received a particular one-time only order for 2,500 medals at ₹ 100 per medal. Souvenir Ltd. makes medals for its existing customers in a batch size of 50 medals (150 batches x 50 medals per batch = 7,500 medals).

The particular order for 2,500 medals requires Souvenir Ltd. to manufacture the medals in 25 batches of 100 each. Should Souvenir Ltd. accept a particular/special order?

2. The following is the trading summary of a manufacturing concern that makes two products, X and Y.

Trading Summary

For the four months 30th April 2013

	X (₹)		Y (₹)		Total (₹)
Sales		10,000		4,000	14,000
Less: Cost of Sales					
Direct Cost					
Labour	3000		1000		
Material	1500	4500	1000	2000	6500
Indirect Costs					
Variable Expenses		2000		1000	3000
Fixed Expenses					
Common to both X and Y		1250		1250	2500
Profit		2250		-250	2000

*These costs tend to vary in direct proportion to physical output.

** These costs tend to remain constant irrespective of the physical outputs of X and Y.

It has been the practice of the concern to allocate these costs equally between X and Y. The Board has made the following proposals of Directors for your consideration as a financial adviser:

- (i) Discontinue Product -Y.
- (ii) As an alternative to (i), reduce the price of Y by 20 per cent. It is estimated that the demand will then increase by 40 per cent.

Required:

Recommend the proposals to be taken after evaluating each of these two proposals.

3. A refrigerator manufacturer purchases a certain component @ ₹50 per unit. If he manufactures the same product, he has to incur a fixed cost of ₹ 20,000, and the variable cost per unit is ₹40. When can the manufacturer make it on his own, or when he can buy from outside?

When the requirement is ₹5,000 units, will you advise to make or buy?

4. The following particulars are obtained from costing records of a factory:

Particulars	Per unit of Product A (₹)	Per unit of Product B (₹)
Direct Material ₹ 20 per Kg	80	320
Direct Labor @ ₹ 10 per hr	100	200
Variable overhead	40	80
Selling price	400	1000
Total fixed overheads	₹ 30,000	

5. From the following data, which product would you recommend to be manufactured in a factory, time is the key factor?

Particulars	Per unit of Product A (₹)	Per unit of Product B (₹)
Direct Material	24	14
Direct Labor @ ₹ 1 per hr	2	3
Variable overhead ₹ 2 per hr	4	6
Selling price	100	110
The standard time to produce	2 hours	3 Hours

6. Examine the various kinds of managerial decisions.

7. A factory engaged in manufacturing plastic buckets works at 40% capacity and produces 10,000 buckets per annum.

The present cost break up for the bucket is as under

Material	₹ 10
Labour	₹3
Overheads	₹ 5(60% fixed)

The selling price is ₹ 20 per bucket.

If it is decided to work the factory at 50% capacity, the selling price falls by 3%. At 90% capacity, the selling price falls by 5%, accompanied by a similar fall in material prices.

You are required to calculate the profit at 50% and 90% capacities and also calculate the break-even point for the same capacity productions.

8. A confectioner of sweets markets three products, all of which require sugar. His average monthly sales, cost of sales and sugar consumption are as follows:

Products	X	Y	Z	Total
Sales (₹)	10,000	12,000	8,000	30,000

Variable cost of sales (₹)	6,000	8,000	5,600	19,600
Sugar needed (Kg.)	500	800	240	1,540

Due to government restrictions, his sugar quota has been reduced to 1,405 Kg, per month. Suggest an appropriate product mix.

9. The management of a company finds that while the cost of making a component part is ₹10, the same is available in the market at ₹9 with an assurance of continuous supply. Suggest whether to make or buy this part. Also, give your views in case the supplier reduces the price from ₹9 to ₹8.

The cost information is as follows:

Material	₹3.50
Direct labour	₹4.00
Other variable expenses	₹1.00
Fixed expenses	₹1.50
Total	₹10.00



Further Readings

1. Khan, M.Y., & Jain, P.K. (2017). Management Accounting, 7th Edition, McGraw Hill Education.
2. Shah, Paresh. (2019). Financial Accounting for Management, 3rd Edition, Oxford University Press.
3. Maheshwari, S.N., Maheshwari, Sharad. K., & Maheshwari, Suneel. K. (2018). A Textbook of Accounting for Management, 4th Edition, Vikas Publishing House.
4. Gupta, Ambrish. (2018). Financial Accounting for Management: An Analytical Perspective, 6th Edition, Pearson Education India.
5. Goyal, V.K. (2010). Financial Accounting, 3rd Edition, Excel Books, New Delhi.
6. Lanen, N. William., Anderson, W. Shannon., & Mather, W. Michael. (2010) Fundamentals of Cost Accounting, 3rd Edition, McGraw Hill Education.
7. Belverd E., Needles. Accounting for Decision Making, Cengage Learning.



Web Links

<https://www.accountingnotes.net/cost-accounting/marginal-costing/11-main-areas-of-marginal-costing-cost-accounting/6167>

<https://www.economicdiscussion.net/cost-accounting/applications-of-marginal-costing/31695>

<https://icmai.in/upload/Students/Syllabus2016/Archive/Inter/Paper-10.pdf>

https://www.eirc-icai.org/mybackoffice/background_Material/Marginal%20Costing%20&%20Others.pdf

Unit 12: Transfer Pricing

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Objectives

After studying this unit, you will be able to:

- explain the concept and purpose of transfer pricing.
- calculate transfer price as per the various methods of transfer pricing.
- review the methods of transfer pricing.

Introduction

Transfer pricing refers to the rules and methods for pricing transactions within and between enterprises under common ownership or control in taxation and accounting. Tax authorities in many countries can adjust intra-group transfer prices that differ from what would have been charged by unrelated enterprises dealing at arm's length (the arm's-length principle) due to the potential of cross-border controlled transactions to distort taxable income.

The OECD and World Bank suggest intra-group pricing rules based on the arms-length principle, and 19 of the 20 members of the G20 have followed similar measures through bilateral treaties and domestic regulations, legislation, or administrative practice.

Transfer pricing rules wherever adopted allow tax authorities to adjust prices for most cross-border intra-group transactions, including transfers of tangible or intangible property, services, and loans. In the present unit, meaning, importance, pros & cons, and transfer pricing methods are briefly discussed.



What is an Arm's Length Transaction?

An arm's length transaction, also known as the arm's length principle (ALP), indicates a transaction between two independent parties in which both parties act in their own self-interest. Both buyer and seller are independent, possess equal bargaining power, are not under pressure or duress from the opposing party, and are acting in their own self-interest to attain the most beneficial deal.



What is a related party Transaction?

It refers to a deal or arrangement between two parties joined by a preexisting business relationship or common interest. Companies often seek business deals with parties with whom they are familiar or have a common interest.

Although related-party transactions are legal, they may create conflicts of interest or lead to other illegal situations.

12.1 Meaning and Importance

Transfer Pricing: Meaning

It is an accounting practice representing the price that one division in a company charges another division for goods and services provided.

Transfer pricing allows for the establishment of prices for the goods and services exchanged between divisions, departments, subsidiaries, affiliates, or commonly controlled companies that are part of the same larger enterprise.

Transfer pricing can also be applied to intellectual property such as research, patents, and royalties.

Transfer Pricing and Tax Liabilities

Multinational companies (MNC) are legally allowed to use the transfer pricing method for allocating earnings among their various subsidiary and affiliate companies that are part of the parent organization. However, companies can also use (or misuse) this practice by altering their taxable income, thus reducing their overall taxes. The transfer pricing mechanism is a way that companies can shift tax liabilities to low-cost tax jurisdictions.

Companies use inter-company transfer pricing to reduce the tax burden of the parent company.



Example

Companies charge a higher price to divisions in high-tax countries (reducing profit) while charging lower prices (increasing profits) for low-tax countries.

Ideal Transfer Pricing

The ideal transfer price allows each division manager to make decisions that maximize the company's profit while attempting to maximize the division's profit.

Transactions subject to Transfer pricing

The following are some of the typical international transactions which are governed by the transfer pricing rules:

- Sale of finished goods
- Purchase of raw material
- Purchase of fixed assets
- Sale or purchase of machinery etc.
- Sale or purchase of Intangibles
- Reimbursement of expenses paid/received
- IT-enabled services
- Support services
- Software Development services
- Technical Service fees
- Management fees
- Royalty fee
- Corporate Guarantee fees
- Loan received or paid

Transfer Pricing: Purpose and Importance

- **Performance evaluation of individual divisions, subsidiaries, associates:**
Transfer pricing assists in generating separate profit for each division and enabling performance evaluation of each division separately.

- **Allocation of company's resources:** Transfer prices would affect not just the reported profits of every centre but also affect the allocation of a company's resources (Cost incurred by one centre will be considered the resources utilized by them).

Why do organizations need to understand Transfer Pricing?

- For Accounting and Reporting purpose
- For compliance requirements
- For Tax management
- For allocating revenues and expenses

For Accounting and Reporting purpose:

For management accounting and reporting, multinational companies (MNCs) have little discretion while defining how to distribute the profits and expenses to the subsidiaries located in various countries.

For compliance requirements:

A business having cross-border intercompany transactions must understand the transfer pricing concept, particularly for the compliance requirements as per law, and eliminate the risks of non-compliance.

For Tax management:

Most companies use transfer pricing to manage their tax liabilities. Companies use inter-company transfer pricing to reduce the tax burden of the parent company.

For allocating revenues and expenses:

Sometimes, a company's subsidiary might be divided into segments or might be accounted for as a standalone business. In these cases, transfer pricing helps allocate revenue and expenses to such subsidiaries in the proper manner.

12.2 Advantages and Limitations

Transfer Pricing: Advantages

- Cost-saving for Departments
- Transparency
- Reducing Tax liabilities

Cost-saving for Departments

Transfer pricing results in cost savings as far departments are concerned because transfer price is usually lower than the market price of the product, hence for example, if the multinational company produces batteries as well as mobiles, then the mobile division can purchase batteries from the battery division of the company resulting in cost savings for mobile division of the company.

Transparency

It makes dealings between various departments transparent. In the absence of a transfer price mechanism, departmental heads will charge prices arbitrarily, resulting in them exploiting the department that needs the product and thus creating animosity between departments that, in the long term, can cause irreversible damage to the company.

Reducing Tax liabilities

Using transfer pricing methods, companies reduce income taxes in countries with comparatively high tax charges by overpricing goods they transfer to countries where they can leverage lower tax rates. In this way, business entities successfully earn higher profit margins.

Transfer Pricing: Limitations

- Complicated Process
- Animosity between Departments

- Difficult to set transfer pricing policies for intangibles.
- Determining Arm's Length Price of Transactions.

Complicated Process

The most significant disadvantage of transfer price is that it is a complicated process. Unlike market price determined by the demand and supply of the good transfer price, market forces alone rather than many other variables come into play, making this process complicated and questionable.

Animosity between Departments

It can create an unnecessary rift between the departments because departments that supply goods to other departments will feel that they are sacrificing their profit by not selling their products to the market as market rates are higher than transfer price.

Animosity between Departments

In simple words, suppose you own a home. Due to some reason, for six months you have to give that home on a rent to your relative or friend then you will be taking less rent than market rent, the mechanism of transfer price is somewhat similar and hence can cause anger as well frustration in the company.

Difficult to set transfer pricing policies for intangibles

To decide the right amount while determining the pricing policy for intangibles like services is a daunting task.

Determining Arm's Length Price of Transactions

Sometimes, it is impossible to find uncontrolled independent transactions used to determine Arm's Length Price, and it becomes practically impossible to decide on ALP.

12.3 Methods of Calculating Transfer Price

- Market-based Transfer Pricing
- Cost-based Transfer Pricing
- Negotiated Transfer Pricing

Market-Based Price

- When the outside market for the good is well-defined, competitive, and stable, firms often use the market price as an upper bound for the transfer price
- Transfers are made based on Market price.

Applicable

When the outside market for the good is well-defined, active, competitive, and stable, firms often use the market price as an upper bound for the transfer price

Concerns to Use Market Price

- When the outside market is neither competitive nor stable.
- If competitors are selling at distress prices or are engaged in any of a variety of "special" pricing strategies (e.g., price discrimination, product tie-ins, or entry deterrence), internal decision-making may be distorted.
- Reliance on market prices makes it difficult to protect "infant" segments.

Cost-based Transfer Pricing

- In the absence of an established market price, many companies base the transfer price on the production cost of the supplying division.
- Goods and Services are transferred based on the Cost of production.
-

Advantage

It is a convenient and straightforward method of deciding transfer prices.

Disadvantage

- It may distort the Profit figure.
- It may prove inappropriate in case of inefficiencies of transferring department.

Cost-based Transfer Pricing: Methods

1. Full Cost
2. Cost-plus
3. Variable Cost plus Lump Sum charge
4. Variable Cost plus the Opportunity cost
5. Dual Transfer Prices

1. Full Cost

It is a popular transfer price because of its clarity and convenience and because it is often viewed as a satisfactory approximation of outside market prices.



Total actual costs can include inefficiencies; thus, its usage for transfer pricing often fails to provide an incentive to control such inefficiencies.

The use of total standard costs may minimize the inefficiencies mentioned above.

2. Cost-plus markup

It overcomes the shortcoming of the Cost Price Method.



Cost-plus a margin of profit (say 15% of the Cost)

Advantage

It is a simple and convenient method.

Disadvantage

Inefficiencies are also transferred from one centre to another.

3. Variable Cost plus a Lump Sum Charge

The transfer price could be set equal to (standard) variable cost plus a lump-sum periodical charge covering the supplying division's related fixed costs to motivate the buying division for making appropriate purchasing decisions.

4. Variable Cost plus Opportunity Cost

Minimum Transfer Price = Incremental Cost + Opportunity Cost.

For internal decision-making purposes, a transfer price should be at least as large as the sum of:

- cash outflows that are directly associated with the production of the transferred goods; and
- the contribution margin foregone by the firm as a whole if the goods are transferred internally.

5. Dual Transfer Prices

Some companies adopt a dual transfer pricing system to avoid some of the problems associated with the above schemes. For example:

Charge the buyer for the variable cost. The objective is to motivate the manager of the buying division to make optimal (short-term) decisions.

Credit the seller at a price that allows for a normal profit margin. This facilitates a "fair" evaluation of the selling division's performance.

Negotiated Price

Price arrived at after negotiations

Here, the firm does not specify rules for the determination of transfer prices. Divisional managers are encouraged to negotiate a mutually agreeable transfer price. Negotiated transfer pricing is typically combined with free sourcing. In some companies, though, headquarters reserves the right to mediate the negotiation process and impose an "arbitrated" solution.



A manufacturing company had two departments A and B. Dept. A transfers most of its production to Dept. B. The product's variable cost is ₹ 15 per unit, and the fixed cost is ₹ 7.5 per unit. The Market price of the product is ₹ 27.5. Dept. B has to incur an extra processing cost of ₹ 25, and the final product is sold in the market at ₹ 55 per unit.

Examine the profits of transferring to B when Transfer Pricing methods will be at:

1. Total Cost
2. Total cost plus 25% of the cost
3. Market-based price
4. The standard price is ₹ 23.5 per unit
5. Negotiated price is ₹ 24

Solution:

1. Total Cost method

Selling price per unit	₹ 55
Transfer price (15+7.5)	(₹ 22.5)
Additional cost	(₹ 25)
Gross profit per unit	₹ 7.5

2. Cost-plus mark up of 25%

Selling price per unit	₹ 55
Transfer price (15+7.5+5.625)	(₹ 28.13)
Additional cost	(₹ 25)
Gross profit per unit	₹ 1.87

3. Market transfer Price

Selling price per unit	₹ 55
Transfer price (27.5)	(₹ 27.5)
Additional cost	(₹ 25)
Gross profit per unit	₹ 2.5

4. Standard price method

Selling price per unit	₹ 55
Transfer price (23.5)	(₹ 23.5)
Additional cost	(₹ 25)
Gross profit per unit	₹ 6.50

5. Negotiated transfer price

Selling price per unit	₹ 55
Transfer price (24)	(₹ 24)
Additional cost	(₹ 25)
Gross profit per unit	₹ 6

Selection of Transfer Pricing Method

The following general criteria should be kept in mind while determining the transfer price:

- The transfer price should compensate the transferring division and charge the buying division with the value of goods/services exchanged.
- The transfer price should be objectively determinable.
- The transfer price should provide the basis for profit centre evaluation.
- It should contribute to the congruence between the goals of the division and the goals of the organization.
- It should maximize the efforts towards the achievement of organizational goals.



Case Study

India vs. M/s Redington (India) Limited, December 2020

Redington India Limited (RIL) established a wholly-owned subsidiary Redington Gulf (RG), in the Jebel Ali Free Zone of the UAE in 2004. The subsidiary was responsible for the Redington group's business in the Middle East and Africa. Four years later, in July 2008, RIL set up a wholly-owned subsidiary company in Mauritius, RM. In turn, this company set up its wholly-owned subsidiary in the Cayman Islands (RC) – a step-down subsidiary of RIL. On 13 November 2008, RIL transferred its entire shareholding in RG to RC without consideration. Within a week after the transfer, a 27% shareholding in RC was sold by RG to a private equity fund Investcorp, headquartered in the Cayman Islands, for a price of ₹ 325.78 Crores.

RIL claimed that the transfer of its shares in RG to RC was a gift and, therefore, exempt from capital gains taxation in India. It was also claimed that transfer pricing provisions were not applicable as income was exempt from tax.

The Indian tax authorities disagreed and found that the transfer of shares was a taxable transaction, as the three defining requirements of a gift were not met – that the transfer should be (i) voluntary, (ii) without consideration and that (iii) the property so transferred should be accepted by the donee. The tax authorities also relied on the documents for the transfer of shares, the CFO statement, and the law dealing with property transfer. The tax authorities determined the arm's length price using the comparable uncontrolled price method – referring to the pricing of the shares transferred to Investcorp.

In the tax assessment, the authorities had also denied deductions for trademark fees paid by RIL to a Singapore subsidiary to use the "Redington" name. The tax authorities had also imputed a fee for RIL providing guarantees in favour of its subsidiaries.

RIL disagreed with the assessment and brought the case before the Dispute Resolution Panel (DRP) who ruled in favour of the tax authorities. The case was then brought before the Income Tax Appellate Tribunal (ITAT) who ruled in favour of RIL. ITAT's ruling was then brought before the High Court by the tax authorities.

The decision of the High Court

The High Court ruled that transferring shares in RG by RIL to its step-down subsidiary (RC) as part of corporate restructuring could not be qualified as a gift. Extraneous considerations had compelled RIL to make the transfer of shares, thereby rendering the transfer involuntary. The entire transaction was structured to accommodate a third-party investor, who had put certain conditions before effecting the transfer. According to the Court, the transfer of shares was a circular transaction to avoid payment of taxes.

"Thus, if the chain of events is considered, it is clear that the incorporation of the company in Mauritius and Cayman Islands just before the transfer of shares is undoubtedly a means to avoid taxation in India, and the said two companies had been used as conduits to avoid income tax" observed the Court.

The High Court also disallowed deductions for trademark fees paid by RIL to a Singapore subsidiary. The Court stated it was illogical for a subsidiary company to claim a Trademark fee from its parent company (RIL), especially when there was no documentation to show that the subsidiary was the trademark owner. It was also noted that RIL had been using the trademark in

question since 1993 – long before the subsidiary in Singapore was established in 2005.

Regarding the guarantees, the Court concluded these were financial services provided by RIL to its subsidiaries for which a remuneration (fee/ commission) was required.

Source: <https://tpcases.com/india-vs-m-s-redington-india-limited-december-2020-high-court-of-madras-case-no-t-c-a-nos-590-591-of-2019/>

Summary

- Transfer pricing can be defined as the price charged by one enterprise division from another division of the same enterprise.
- It may not appear significant in the small or centralized enterprise. However, it is of immense significance when the scale of an industry is raised or decentralized enterprise.
- Any transaction on transfer pricing happens whenever two companies are part of the same multinational group trade. For example, when a US-based subsidiary of Pepsico buys something from a Germany-based subsidiary of Pepsico. When the parties establish a price for the transaction, this is transfer pricing.
- Transfer pricing is not, in itself, illegal or necessarily abusive. Unlawful or abusive is transfer mispricing, also known as transfer pricing manipulation or abusive transfer pricing.
- It is of immense use for tax management for multinational companies.
- It can result in shifting profits from high tax jurisdictions to low tax jurisdictions.
- Transfer pricing can be determined through market-based pricing methods, cost-based pricing methods, or negotiated pricing methods.
- There could be differences in opinions among divisional organizational managers concerning how to transfer price needs to be set.
- The transfer pricing issue in a multinational setup is very complicated.

Keywords

Arm's Length Price: It is a price that is fixed by the associated enterprises as if they had set the price between unassociated enterprises entering into the transaction.

Cost-based Transfer Pricing: In the absence of an established market price, many companies base the transfer price on the production cost of the supplying division.

Market-based Transfer Pricing: When the outside market for the good is well-defined, competitive, and stable, firms often use the market price as an upper bound for the transfer price.

Negotiated Transfer Pricing: The firm does not specify rules for the determination of transfer prices. Divisional managers are encouraged to negotiate a mutually agreeable transfer price.

Transfer pricing: It refers to the value attached to transfers of goods, services, and technology between related entities located in different territories.

Self Assessment

1. What is the main reason for shifting profits from one country to another country?
 - A. To avoid double taxation
 - B. To benefit from investment opportunities
 - C. To benefit from a difference in tax rates
 - D. To increase overall pre-tax profits
2. Transfer Pricing plays a significant role in Accounting of:
 - A. Arm's Length transactions
 - B. Related party transactions

-
- C. Both Arm's Length and Related Party transactions
- D. None of above
3. Transfer pricing is due to:
- A. Related party transactions
- B. A way for International marketers to reduce tax liabilities
- C. International marketers transferring goods and services in their organization between different countries
- D. All of above
4. indicates a transaction between two independent parties in which both parties are acting in their own self-interest.
- A. Transaction
- B. Related Party Transaction
- C. Arm's Length Transaction
- D. Exchange of value
5. The ideal transfer price allows each division manager to make decisions that will
- A. maximize the company's profit
- B. maximize division's profit
- C. maximize the company's profit while attempting to maximize the division's profit
- D. maximize the company's profit while trying to minimize the division's profit
6. Why Organizations Need to Understand Transfer Pricing?
- A. For Accounting and Reporting purpose
- B. For compliance requirements
- C. For Tax management
- D. All of above
7. Which method helps fix transfer price when a competitive external market exists for the transferred product?
- A. Market Price
- B. Cost Price
- C. Cost Plus Margin Price
- D. Negotiated Price
8. When Cost alone is used for transfer pricing, the selling division cannot profit from the goods transferred. This is a disincentive to the selling division. To overcome this problem, which method should be used to fix the transfer price?
- A. Absorption cost
- B. Cost Price
- C. Cost Plus Margin Price
- D. Marginal Cost
9. A price which is set post negotiations by heads of both (Transferor and Transferred) division is termed as:
- A. Market Price
- B. Cost Price
- C. Cost Plus Margin Price
- D. Negotiated Price

10. If actual costs are used as the basis for the transfer, any variances or inefficiencies in the selling division are passed along to the buying division. To promote responsibility in the selling division and to isolate variances within divisions, which costs are usually used as a basis for transfer pricing in cost-based systems?
- A. Cost Price
 - B. Cost Plus Margin Price
 - C. Marginal Cost
 - D. Standard Cost
11. The "Pedal" division of 'Avon Cycles' manufactures one type of Pedals which is sold to external customers for ₹ 50 each. Its fixed Cost per Pedal is ₹ 10.50, and its variable cost is ₹ 22.50. Avon's top management asks the Pedal division to transfer 10,000 Pedals to another division within the company. Which of the following amount will be set as transfer price if the transfer is made at the 'actual cost' of the Pedal division?
- A. ₹ 50
 - B. ₹ 10.50
 - C. ₹ 22.50
 - D. ₹ 33
12. The "Pedal" division of 'Avon Cycles' manufactures one type of Pedals which is sold to external customers for ₹ 70 each. Its fixed Cost per Pedal is ₹ 30.50, and its variable cost is ₹ 22.50. Avon's top management asks the Pedal division to transfer 20,000 Pedals to another division within the company. Which of the following amount will be set as transfer price if the transfer is made at 'Variable cost' of the Pedal division?
- A. ₹ 70
 - B. ₹ 30.50
 - C. ₹ 22.50
 - D. ₹ 53
13. The "Pedal" division of 'Avon Cycles' manufactures one type of Pedals which is sold to external customers for ₹ 60 each. Its fixed Cost per Pedal is ₹ 20.50, and its variable cost is ₹ 12.50. Avon's top management asks the Pedal division to transfer 10,000 Pedals to another division within the company. Which of the following amount will be set as transfer price if the transfer is made at 'Market Price' of the Pedal division?
- A. ₹ 60
 - B. ₹ 20.50
 - C. ₹ 12.50
 - D. ₹ 80.50
14. Setting transfer price as per the following method can include inefficiencies; thus, its usage for transfer pricing often fails to provide an incentive to control such inefficiencies.
- A. Full Cost
 - B. Standard Cost
 - C. Opportunity cost
 - D. Variable cost-plus opportunity cost
15. Minimum Transfer Price is set by adding Incremental Cost and Opportunity Cost as per the following method:
- A. Variable Cost-Plus Opportunity Cost
 - B. Dual Transfer Prices
 - C. Variable Cost Plus a Lump Sum Charge
 - D. Cost-Plus Mark Up

Answers for Self Assessment

1	C	2	B	3	D	4	C	5	C
6	D	7	A	8	C	9	D	10	D
11	D	12	C	13	A	14	A	15	A

Review Questions

1. What is the transfer price?
2. Explain the meaning and importance of transfer pricing.
3. Illustrate the use of transfer pricing in tax management by multinational corporations.
4. Explain the market-based transfer pricing method with its advantages and disadvantages.
5. Examine the cost-based transfer pricing method with its pros and cons.
6. What is the need for Intracompany transfer pricing? Discuss the significant techniques for transfer pricing and outline the circumstances in which each may be used with an advantage.
7. What is the transfer price? What are the different types of transfer prices? Discuss the usefulness and appropriateness of the different kinds of transfer prices under different circumstances.



Further Readings

1. Khan, M.Y., & Jain, P.K. (2017). Management Accounting, 7th Edition, McGraw Hill Education.
2. Shah, Paresh. (2019). Financial Accounting for Management, 3rd Edition, Oxford University Press.
3. Maheshwari, S.N., Maheshwari, Sharad. K., & Maheshwari, Suneel. K. (2018). A Textbook of Accounting for Management, 4th Edition, Vikas Publishing House.
4. Gupta, Ambrish. (2018). Financial Accounting for Management: An Analytical Perspective, 6th Edition, Pearson Education India.
5. Goyal, V.K. (2010). Financial Accounting, 3rd Edition, Excel Books, New Delhi.
6. Lanen, N. William., Anderson, W. Shannon., & Mather, W. Michael. (2010) Fundamentals of Cost Accounting, 3rd Edition, McGraw Hill Education.
7. Belverd E., Needles. Accounting for Decision Making, Cengage Learning.



Web Links

- <https://www.icsi.edu/media/website/CostAndManagementAccounting.pdf>
- <https://icmai.in/TaxationPortal/Publication/Books/Intl-Tax-Transfer-Pricing.pdf>
- <https://tpcases.com/pop-pages/india-2/>

Unit 13: Activity-Based Costing

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Objectives

After studying this unit, you will be able to:

- discuss the problems of the traditional costing system.
- explain the activity-based costing system.
- compare traditional and activity-based costing.
- execute the five steps of activity-based costing to determine product costs.
- discuss the benefits and limitations of activity-based costing.
- comment on the importance and use of activity-based costing in the complex business environment.

Introduction

The main objective of any costing system is to determine the cost of a product or service scientifically. For facilitating the calculation, costs are divided into direct and indirect. Direct costs are the costs that are traceable to the products/services offered. On the other hand, indirect costs, also called 'overheads,' are not traceable to the products/services. Hence these costs are first identified, classified, allocated, apportioned wherever allocation is not possible, reapportioned, and finally absorbed in the products/services. Charging the direct costs to the products is comparatively a simple procedure and can be done with remarkable accuracy. However, the indirect costs present problems in charging them to the products, and there is a possibility of distortion of costs though charging them is pretty logical. It is one of the limitations of the traditional costing system. For example, one of the methods of absorption of overheads is direct labor cost. This method is quite satisfactory when the overhead costs of indirect activities are a small percentage compared to the direct labor component in the actual making of products. However, the increased technology and automation have considerably reduced direct labor, so the indirect activities have assumed greater importance. Therefore, using direct labor to absorb the overheads can lead to distortions in the costs. Distortions in the costs resulting in incorrect cost calculations may lead to following wrong decisions.

- Errors in fixation of selling prices.
- Wrong decisions regarding deciding of product mix.
- Ignoring customer orientation.

- Missing of profitable opportunities.

To overcome the limitations of traditional costing systems, activity-based Costing has been introduced. Before we proceed to the other aspects of Activity-based Costing, let us see the limitations of the traditional costing system. A brief mention of the same has already been made in the above paragraph. Some more points are discussed below.

13.1 Background, Concept, and Pre-requisites

Traditional costing system

Traditional costing is a costing method used to allocate overhead costs based on a single cost driver according to the consumption of a volume of production resources. This single cost driver can be based on machine hours, labor hours, etc., and is used for all the different activities.

As per the traditional costing system, Material cost, labor cost, and overhead constitute the total cost of a product or service. Overheads are allocated to the products on volume-based measures, e.g., labor hours, machine hours, units produced.

Limitations of Traditional costing system

- Focuses upon product costing by tracing costs to the product and allocating costs through cost centers.
- Methods of Allocation are inadequate to prorate common costs.
- It can result in cost distortion, i.e., either under-costing of product or over-costing of product.

The traditional costing system's above limitations are overcome by the Activity-Based Costing (ABC) system. Let's discuss how through the following case:



Case Study

Mr. John sold 100 Pizza and 100 burgers at his 'Fast food joint' in October.

He purchased the pizza base for ₹ 20 per unit and Bun for ₹ 10 per unit.

There is an electricity bill of ₹ 2,000 for October.

- What will be the cost of 100 pizzas and 100 burgers?

Solution:

As per the traditional costing system, the total cost will be calculated as follows:

Description	Pizza (100 units) in (₹)	Burger (100 units) in (₹)
Material cost	2,000	1,000
Electricity bill ($\frac{₹2000}{200 \text{ units}} \times 100$ units)	1,000	1,000
Total cost	3,000	2,000

Point of Discussion

- Is it fair to allocate electricity bills equally to Pizzas and Burgers based on the number of units produced?

Solution: No, it will distort the costing results as it has over-priced the burgers and under-priced

the Pizzas. Let's check how?

Assume that 800 units of electricity are used to make 100 Pizzas and 200 units of electricity are used to make 100 burgers.

In such a case, it is the direct inference that the traditional costing system has distorted the costing results. Thus, it is activity-based costing (ABC) system that will provide a better alternative. Let's discuss how costing results are improved through an activity-based costing system.

As per the ABC system, Apportionment of Electricity Cost will be based on electricity units consumed for each product, and the total cost of 100 Pizzas and 100 Burgers will be calculated as follows:

Description	Pizza (100 units) in (₹)	Burger (100 units) in (₹)
Material cost	2,000	1,000
Electricity bill	(₹ 2000*800/1000) =1600	(₹ 2000*200/1000) =400
Total cost	3,600	1,400

Point of Discussion

- Is it a fair apportionment of electricity based on consumption of units by both products?

Solution: Definitely yes, as it has not resulted in cost distortion of Pizzas and Burgers. Neither of them is underpriced or overpriced.

Activity-Based Costing System (ABC): Concept

It refines a costing system by identifying individual activities as the fundamental cost objects. ABC systems identify activities in all functions of the value chain, calculate costs of individual activities, and assign costs to cost objects such as products and services based on the mix of activities needed to produce each product or service to help make strategic decisions.

Activity-Based Costing System (ABC): Key terms

Activity

An activity is an event, task, or unit of work with a specified purpose.



Examples

Designing products, setting up machines, operating machines, and distributing products.

More informally, activities are verbs; they are things that a firm does.

Cost Object

A cost object is an item for which a cost is compiled.



Examples

A product, product line, service, project, customer, distribution channel, or activity.

Cost objects are used in activity-based costing analyses as the focal point of cost accumulations.

A close review of cost objects is also helpful in managing costs throughout an organization.

Cost Driver

A cost driver is any factor or activity with a direct cause and effect relationship with the resources consumed.



Examples

Business functions	Cost Drivers
Distribution	<ul style="list-style-type: none"> • Number of units distributed • Number of customers
Marketing	<ul style="list-style-type: none"> • Number of advertisements • Number of sales personnel • Sales revenue
Research and Development	<ul style="list-style-type: none"> • Number of research projects • Personnel hours on a project
Customer Service	<ul style="list-style-type: none"> • Number of service calls • Number of products serviced • Hours spent on servicing products
Design of products, services, and procedures	<ul style="list-style-type: none"> • Number of products in design • Number of parts per product • Number of engineering hours

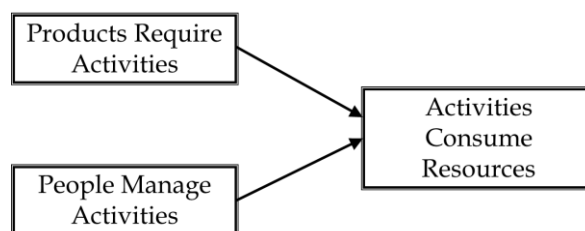
Activity-Based Costing (ABC): Meaning and Definition

- A costing methodology for more precisely allocating overhead costs by assigning them to activities.
- Once costs are assigned to activities, the costs can be assigned to the cost objects that use those activities.
- The system can be employed for the targeted reduction of overhead costs.
- ABC works best in complex environments, where there are many machines and products and tangled processes that are not easy to sort out.
- Conversely, it is of less use in a streamlined environment where production processes are abbreviated.

"An approach to the costing and monitoring of activities involves tracing resource consumption and costing final outputs. Resources are assigned to activities and activities to cost objects based on consumption estimates. The latter utilize cost drivers to attach activity costs to outputs."

- CIMA

Activity-Based Costing (ABC): Rationale



13.2 Activity-Based Costing versus Traditional Costing

Basis	Activity-Based Costing	Traditional Costing
Primary Focus	It uses multiple cost drivers for multiple activities.	It uses identical cost drivers for multiple activities.
Application	It is challenging to implement and requires time and effort.	It is straightforward to implement.
Scope	It covers product costs only.	It covers both products as well as period costs.
Management Use	The values can be used in external financial statements.	The values cannot be used in reports of external reporting.
Effectiveness of operations	It enhances management knowledge about activities related to the production process.	It does not provide the opportunity to identify any specific reasons for the cost incurred.



Notes

1. Primary Focus:

The primary focus of traditional costing is the apportionment of overhead costs to the activities of production. Irrespective of the specific allocation of resources, traditional costing sets a single metric for every activity involved in the production and allocates costs based on the consumption of that metric. Although activity-based costing is also used for cost allocation, it adopts a different approach. Under activity-based costing, appropriate cost drivers are determined for every activity, and the cost is then allocated according to these cost drivers.

2. Application:

The traditional costing method is easy to implement as a single cost driver is set for all activities, and overheads are divided into fixed and variable overheads. Activity-based costing is challenging to implement because choosing a suitable basis for absorption and absorbing overheads on that same basis is a complicated and time-consuming exercise. Additionally, in some cases, it becomes difficult to determine a reasonable basis for allocating an activity.

3. Scope:

Traditional costing can only be used for the absorption of manufacturing overheads. Still, activity-based costing can effectively allocate manufacturing and non-manufacturing overheads like selling, administration, etc. It is because activity-based costing considers the actual center of cost for the period cost and then allocates it.

4. Management use:

The figures extracted by traditional costings can be included in the cost figure of the statement of profit or loss because it only inculcates product costs. Still, activity-based costing can only be used for management purposes. The main reason is that activity-based costing is based on the user's subjectivity, and two users may not find a cost metric suitable for the same activity. However, activity-based costing can be actively used by managing a company to make better cost pools and allocate costs more accurately.

5. Effectiveness of operations:

Activity-based costing improves business processes in the long term as the company's management needs to investigate deeply into production activities and related costs. This highlights the reasons for certain costs being incurred, which can ultimately help control and manage these costs. Traditional costing does not compel management to look for different cost centers, so it becomes difficult for management to gather incremental data about production activities.



Case Study

Bira Co. manufactures fizzy drinks and plans the production of 20,000 drinks for July. The direct labor hours estimated for July are 900, direct machine hours are 600, and the estimated overheads are \$6,000. These overheads can be segregated into three categories; \$1,000 for direct supervision for 350 machinehours, \$3,500 for logistics for 540 direct labor hours, and \$1,500 for 30 production set-ups.

Required: Calculate overhead rates per traditional costing system and activity-based costing system and infer the differences.

Solution:**As per the Traditional costing system**

The cost driver to produce drinks would be based on a single activity level, labor hours, or machine hours by applying traditional costing.

So,

Predetermined overhead rate (labor hours)

$$= \$6,000/900 = \$6.7 \text{ per direct labor hour}$$

Predetermined overhead rate (machine hours)

$$= \$6,000/600 = \$10 \text{ per machine hour}$$

Therefore,

For every labor hour spent, a cost of \$6.7, or for every machine hour spent, a cost of \$10 would be added to the cost of a drink.

As per activity-based costing system:

If we apply activity-based costing, this technique will segregate and identify the most suitable cost driver for the incurred overheads:

Activity	Cost Driver
Direct Supervision	350 Machine Hours
Logistics	540 Labour Hours
Production Setups	30 Setups

Thus,

Predetermined overhead rate (direct supervision)

$$= \$1,000/350 = \$2.9/\text{hour}$$

Predetermined overhead rate (logistics)

$$= \$3,500/540 = \$6.5/\text{hour}$$

Predetermined overhead rate (production set-ups)

$$= \$1,500/30 = \$50/\text{hour}$$

So, the overheads will be allocated at a rate of \$2.9 per machine hour spent, \$6.5 per labor hour, and \$50 per production set up.

Activity-Based Costing: Pre-Requisites

- Formation of Cost Pools
- Identification of Activities
- Identification of Cost Object

- Determination of Cost drivers



Did you know? **What is a cost pool?**

Activity cost pools are groups of individual costs influenced by the same cost drivers, which control the amount of costs incurred. It represents a group of various cost items. It consists of costs that have the exact cause and effect relationship – for example, machine set-up.



Did you know? **What is Activity-based Management?**

Activity-based Management is a tool of management that involves analyzing and costing activities to improve efficiency and effectiveness. Though it is closely related to Activity-based Costing, it still differs from its primary goal. The activity-based Costing focuses on activities with the object of measuring the cost of products/services. It tries to compute the cost as accurately as possible. On the other hand, activity-based Management focuses on managing the activities themselves. In activity-based Costing, resources are traced to the activities to compute the costs, while in activity-based Management, resources are traced to activities for evaluation of the activities themselves. In other words, efforts are made to improve the activities further. Thus, activity-based Management is a set of actions that management can take, based on information from an activity-based costing system, to increase/improve profitability.

13.3 Steps Involved in Activity Based Costing

Step 1. Identify activities required to manufacture products.

The organization needs to undertake an in-depth analysis of the operating processes of each responsibility centre. Each process might consist of one or more activities required to produce an output.

Step 2. Determination of Overhead Cost Drivers.

It involves tracing costs to cost objects to determine why the cost occurred. Costs can be categorized in three ways:

- Direct – costs that can be traced directly to one output. For example, the wood and paint that it takes to make a chair.
- Indirect – costs that cannot be allocated to an individual output, that is, they benefit two or more outputs, but not all outputs – for example, maintenance costs or storage costs.
- General/administration – costs that cannot be associated with any product or service. These costs are likely to remain unchanged, whatever output is produced – for example, salaries of administration staff, security costs, or depreciation.

Step 3. Allocation of overhead cost to cost pools.

Relate the overheads to the activities, both support and primary, that cause them. It creates 'cost pools' or 'cost buckets.' It will be done using resource cost drivers that reflect causality.

Step 4. Calculate a predetermined overhead rate for each activity.

Calculate activity cost driver rates for each activity, just as an overhead absorption rate would be calculated in the traditional system.

13.4 Determination of Cost under ABC

Let's take a small case to understand the steps mentioned above and determine overhead cost accordingly:



Case Study

Assume that a company manufactures circuits and management decides to install an ABC system. Management decides that all overhead costs only have three cost drivers –

- Direct labor hours
- Machine hours
- Number of purchase orders

The management provided further following overhead costs incurred to manufacture circuits.

General Ledger	
Payment of Payroll taxes	₹ 1,000
Machine maintenance	₹500
Purchasing Dept. labor paid	₹4,000
Fringe benefits	₹2,000
Purchasing Dept. Supplies	₹250
Equipment depreciation	₹750
Electricity bill paid	₹1,250
Unemployment insurance	₹1,500
Total	₹11,250

Let's implement the ABC system and calculate overhead rates and cost accordingly.

Solution:

Step 1: Identification of main activities

Activities	
Payment of Payroll taxes	₹ 1,000
Machine maintenance	₹ 500
Purchasing Dept. labor paid	₹ 4,000
Fringe benefits	₹ 2,000
Purchasing Dept. Supplies	₹ 250
Equipment depreciation	₹ 750
Electricity bill paid	₹ 1,250
Unemployment insurance	₹ 1,500

Total overheads = ₹ 11,250

Step-2: Determination of Overhead Cost Drivers

Management decides that all overhead costs only have three cost drivers –

- Direct labor hours
- Machine hours
- Number of purchase orders

Base	Product A	Product B	Total
Direct labor hours	400	600	1,000
Machine hours	100	150	250

Purchase orders	50	50	100
-----------------	----	----	-----

Step-3: Allocation of overhead cost to cost pools

a) Direct Labour

Payroll Taxes	₹ 1,000
Fringe Benefits	₹ 2,000
Unemployment insurance	₹ 1,500
Total	₹ 4,500

b) Machine Hours

Machine Maintenance	₹ 500
Equipment depreciation	₹ 750
Electricity	₹ 1,250
Total	₹ 2,500

c) Number of Purchase orders

Purchasing Dept. Labor	₹ 4,000
Purchasing Dept. Supplies	₹ 250
Total	₹ 4,250

Step-4: Allocation of cost as per activity cost driver rate

Base	Product A (₹)	Product B (₹)
Direct labor hours (400:600)	$(4500 \times 400 / 1000)$ =1800	$(4500 \times 600 / 1000)$ =2700
Machine hours(100:150)	$(2500 \times 100 / 250)$ =1000	$(2500 \times 150 / 250)$ =1500
Purchase orders(50:50)	$(4250 \times 50 / 100)$ =2125	$(4250 \times 50 / 100)$ =2125
Total	4925	6325

The actual overhead allocated was ₹4,925 + ₹6,325 = ₹ 11,250 overhead applied.

Now, Let's see what if we had allocated the overhead in this company using traditional cost accounting allocation.

Let's assume the base is direct labor hours

- What would be the amount allocated to each product?

The total amount of overhead is ₹11,250. Total direct labor hours are 1,000 and it is used for allocation purpose.

Allocating overhead using direct labor hours only under traditional costing:

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Product A: ₹11,250 × 400 hours / 1000 hours = ₹4,500

Product B: ₹11,250 × 600 hours / 1000 hours = ₹6,750

Total overhead applied ₹4500 + ₹ 6750 = ₹11,250

Let's compare the overheads cost allocation as per traditional and activating based costing as follows:

	Product A	Product B	Total
Traditional Method	₹4,500	₹6,750	₹11,250
Activity Based Costing	₹4,925	₹6,325	₹11,250
Difference	-₹425	₹425	-0-

Point of Discussion from above comparison.

- Which costing system is more accurate or Why?

13.5 Benefits and Limitations

Benefits of ABC system

- It is a more realistic product cost- based on a cause-and-effect relationship.
- It helps in making better pricing decisions and making better pricing policies by supplying accurate cost information.
- It is a relatively more realistic approach as overhead allocation is done on a logical basis.
- It assists in better control of costs as it focuses on controlling unit cost rather than just total cost.
- It provides greater cost efficiency as it helps to identify non-value-added activities which facilitate cost reduction.
- It is very much helpful for an organization with multiple products.
- It highlights problem areas that require the attention of the management.

Limitations of ABC system

Though this system is quite adequate, it suffers from some limitations. These limitations are given below:

- Activity-based costing is a complex system and requires a lot of records and tedious calculations.
- For small organizations, a traditional cost accounting system may be more beneficial than Activity-based Costing due to the simplicity of operation of the former.
- Sometimes it isn't easy to attribute costs to single activities as some costs support several activities.
- There is a need for trained professionals who are limited in number.
- This system will be successful if there is total support from the top management.
- A substantial investment of time and money is required for the implementation of this system.
- It is relatively expensive to use.
- It is a time-consuming system.
- Some arbitrary allocations may continue in the activity-based costing system as well.

Summary

- The main objective of any costing system is to determine the cost of a product or service scientifically. For facilitating the calculation, costs are divided into direct and indirect. Direct costs are the costs that are traceable to the products/services offered. On the other hand, indirect costs, also called 'overheads,' are not traceable to the products/services.
- To overcome the limitations of traditional costing systems, activity-based costing has been introduced.
- Activity-based Costing is cost attribution to cost units based on the benefit received from indirect activities, e.g., ordering, setting up, assuring quality.
- It is very much valuable for the organization with multiple products.
- Activity-based budgeting is different from traditional budgeting in the sense that it provides a strong link between the objectives of the organization and the objectives of a particular activity
- The limitations of the ABC system are that it is very costly and cannot be applied to all companies.
- The ABC system as a costing tool to manage costs at the activity level is known as Activity-Based Cost Management (ABM). ABM is a discipline that focuses on the efficient and effective management of activities as the route to continuously improving the value received by customers. It utilizes cost information gathered through ABC.

Keywords

Activity: Activity refers to an event that incurs cost.

Activity-based costing: It is a technique that involves the identification of cost with each cost-driving activity and making it the basis for apportionment of costs over different cost objects/products/jobs/customers or services.

Activity-based Management: It is a tool of management that involves analyzing and costing activities to improve efficiency and effectiveness.

Cost Driver: It is a factor that causes a change in the cost of an activity. There are two categories of cost drivers viz.

- Resource cost driver: it is a measure of the quantity of resources consumed by an activity. It is used to assign the cost of a resource to an activity or cost pool.
- Activity cost driver: It measures the frequency and intensity of demand placed on activities by cost objects. It is used to assign activity costs to cost objects.

Cost Object: It is an item for which cost measurement is required—for example, a product, a service, or a customer.

Cost Pool: It represents a group of various cost items. It consists of costs that have the same cause and effect relationship—for example, machine set-up.

Self Assessment

1. Activity-based costing:

- Uses a plant-wide overhead rate to assign overhead
- Is not expensive to implement
- Typically allocates overhead costs to the products based on consumed activities
- Uses multiple activity rates

2. A/An is any factor or activity with a direct cause and effect relationship with the resources consumed.

- Cost Driver

- B. Cost unit
 - C. Cost Activity
 - D. Cost Pool
3. A "project" will be treated as following as per Activity Based Costing system.
- A. Cost Driver
 - B. Cost Object
 - C. Cost Activity
 - D. Cost Pool
4. ITC has the total purchase requisition cost of Tobacco worth ₹ 3,00,000. It is one of the critical activities while producing "Gold Flake," its oldest Cigarette brand. Identify which of the following will serve as the most appropriate 'cost driver' for this activity?
- A. Number of machines set-ups
 - B. Number of times orders placed
 - C. Direct labor hours
 - D. Number of customers served
5. Which of the following characteristics would indicate that a company would benefit from switching to activity-based costing?
- A. Only one homogenous product is produced continuously
 - B. The existing cost system is reliable and predictable
 - C. Overhead costs are high and increasing with no apparent reason
 - D. The costs of implementing ABC outweigh the benefits
6. Which of the following is a limitation of activity-based costing?
- A. Each significant activity accumulates costs
 - B. A variety of activity measures are used
 - C. All costs in an activity cost pool pertain to a single activity
 - D. Activity-based costing relies on the assumption that the cost in each cost pool is strictly proportional to its cost measure
7. Ola Cabs has built its business on one basic principle: "Providing best customer care service" to its customers. Thus, it invests ₹ 11 lakhs on average basis each year to provide instant customer care services to its customers. Identify which of the following will act as the most appropriate 'cost driver' for this activity?
- A. Number of Service Calls
 - B. Number of Research Projects
 - C. Number of Advertisements
 - D. Sales revenue
8. refers to an event that incurs cost.
- A. Cost Driver
 - B. Cost Pool
 - C. Activity

D. Cost Object

9. represents a group of various individual cost items. It consists of costs that have the same cause-effect relationship.

- A. Cost Driver
- B. Cost Pool
- C. Activity
- D. Cost Object

10. The following is/are the pre-requisites of implementing an activity-based costing system.

- A. Identification of Activities
- B. Identification of Cost Object
- C. Determination of Cost drivers
- D. All of above

11. Identify which of the following will act as the most appropriate 'cost driver' for the "Design of Product" activity?

- A. Personnel Hours on a Project
- B. Number of parts per product
- C. Hours spent on servicing products
- D. Number of customers

12. Identify which of the following will act as the most appropriate 'cost driver' for the "Distribution" activity?

- A. Personnel Hours on a Project
- B. Number of parts per product
- C. Hours spent on servicing products
- D. Number of customers

13. Identify which of the following will act as the most appropriate 'cost driver' for the "Research and Development" activity?

- A. Personnel Hours on a Project
- B. Number of parts per product
- C. Hours spent on servicing products
- D. Number of customers

14. Identify which of the following will act as the most appropriate 'cost driver' for the "Customer Care" activity?

- A. Personnel Hours on a Project
- B. Number of parts per product
- C. Hours spent on servicing products
- D. Number of customers

15. Amul has gained the top-of-the-mind positioning because it is the first brand that comes to mind when talking of Ice cream, milk, cheese, butter, or any other milk-based products. It

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invests a reasonably good amount in the marketing and positioning of its brand and products each year. Identify which of the following will act as the most appropriate 'cost driver' for its marketing activities?

- A. Number of Service Calls
- B. Number of Research Projects
- C. Number of Advertisements
- D. Sales revenue

Answers for Self Assessment

- | | | | | |
|-------|-------|-------|-------|-------|
| 1. C | 2. A | 3. B | 4. B | 5. C |
| 6. D | 7. A | 8. C | 9. B | 10. D |
| 11. B | 12. D | 13. A | 14. C | 15. C |

Review Questions

1. What is activity-based costing? Why is it needed?
2. Discuss the steps in applying activity-based costing in a manufacturing company.
3. Differentiate between traditional costing and activity-based costing.
4. Discuss the limitations of the traditional costing system.
5. Give the pre-requisites of the activity-based costing system.
6. What are the benefits of activity-based costing?
7. Enumerate the limitations of activity-based costing.

**Further Readings**

1. Khan, M.Y., & Jain, P.K. (2017). Management Accounting, 7th Edition, McGraw Hill Education.
2. Shah, Paresh. (2019). Financial Accounting for Management, 3rd Edition, Oxford University Press.
3. Maheshwari, S.N., Maheshwari, Sharad. K., & Maheshwari, Suneel. K. (2018). A Textbook of Accounting for Management, 4th Edition, Vikas Publishing House.
4. Gupta, Ambrish. (2018). Financial Accounting for Management: An Analytical Perspective, 6th Edition, Pearson Education India.
5. Goyal, V.K. (2010). Financial Accounting, 3rd Edition, Excel Books, New Delhi.
6. Lanen, N. William., Anderson, W. Shannon., & Mather, W. Michael. (2010) Fundamentals of Cost Accounting, 3rd Edition, McGraw Hill Education.
7. Belverd E., Needles. Accounting for Decision Making, Cengage Learning.

**Web Links**

- <https://resource.cdn.icai.org/62025bos50397cp5.pdf>
- <https://www.termscompared.com/difference-between-activity-based-costing-and-traditional-costing/>
- https://www.cimaglobal.com/Documents/ImportedDocuments/cid_tg_activity_based_costing_nov08.pdf.pdf
- https://www.cimaglobal.com/Documents/Thought_leadership_docs/6Activity-based-costing-China.pdf

Unit 14: Responsibility Accounting

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Summary

Keywords

Self-Assessment/Evaluation

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Objectives

After studying this unit, you will be able to:

- explain the meaning and features of responsibility accounting.
- appraise the importance of responsibility accounting.
- review the pre-requisites to implement the responsibility accounting for controlling purposes.
- categorize the various Responsibility Centers as per their types.
- assess the steps involved in implementing responsibility accounting in an organization.
- review the advantages and limitations of responsibility accounting.

Introduction

Expedient and aiding managerial control is the primary function of management and cost accounting. Management does use various control devices and systems such as Budgetary Control, Standard Costing (Various Analysis), and so on to perform this vital function. Responsibility accounting is one of the most influential and useful managerial control devices among other control systems. Responsibility accounting has gained tremendous importance and is described as a modern approach to managerial control and reporting. The reason behind the same is responsibility accounting focuses on measuring and evaluating the performance of individual divisions, departments, and products of an organization. At the same time, other traditional control systems emphasize the performance evaluation of an organization as a whole. The underlying principle of responsibility accounting technique says accomplishing budgeted or targeted performances is the human responsibility, not of control systems. As it is the human, who uses those control systems as per their discretion for controlling function. Responsibility accounting uses budgetary control and variance analysis for control purposes. Under Responsibility accounting, the target performance for individual responsibility centre's head is set using either budgeting or standard costing. Thus, Responsibility accounting, Budgetary control, and Variance analysis are closely related techniques.

The use of Responsibility accounting as a control device is closely related to the organization size. It has high relevance in large, diversified organizations or conglomerates which deal in multiple unrelated businesses and geographical segments like Hindustan Unilever limited., Johnson & Johnson, ITC limited, Tata group, Reliance Industries limited, and so on. In such big, diversified companies, it is relatively difficult to directly control the operations of all business and geographical divisions by head office compared to small organizations that are run and controlled by a single individual with centralized decision-making authority. Hence, it is appropriate for big companies to decentralize their organizational structure and authorize all divisional or functional managers to operate their divisions independently. Under responsibility accounting control system, these divisional managers will be wholly solely personally responsible for the performance of the divisions they are heading.



Example: Let us take an example of Hindustan Unilever Limited, which is in the business of Personal care, Homecare, Refreshments, Food, and others. In implementing responsibility accounting to such a business model, each business segment manager may be asked to operate the segment business like a small independent business. Thus, each business segment will be regarded as a separate responsibility centre. In this way, the number of responsibility centres will be identified and created for each business segment. These responsibility centres should focus on enhancing the organization's long-term profitability as a whole by coordinating with the activities of other responsibility centres simultaneously.

14.1 Meaning and Definition of Responsibility Accounting

Responsibility accounting is a control system where individual persons are assigned responsibility for controlling costs. These individuals are given proper authority so that they can keep up their performance as per predetermined standards. They will be personally responsible for their quick heads in case they fail to achieve predetermined performance. Thus, Responsibility accounting emphasized humans despite systems. The rationale behind responsibility accounting is to hold individuals for those costs which are significantly controllable in their hands. Further, managers should be given credit only for those revenues which are a result of their actions.

"Responsibility accounting is a system of accounting that recognizes various responsibility centres throughout the organizations and reflects the plans and actions of each of these centres by assigning particular revenue and costs to the one having pertinent responsibility. It is also called profitability accounting or activity accounting."

- Charles T. Horngreen

As per the above definition, it is required to divide the organization into various responsibility centres and make each responsibility centre responsible for its own cost to use responsibility accounting as a managerial control system. Measuring and reporting each responsibility centre's performance regularly is another essential for a successful responsibility accounting system.

"Responsibility accounting system is a system of management accounting under which accountability is established according to the responsibility delegated to various levels of management and a management reporting and information system instituted to give adequate feedback in terms of delegated responsibility. Under this system, divisions or units of an organization under a special authority in a person are developed as responsibility centres and evaluated individually for their performance"

- Institute of Cost and Works Accountants of India

"Responsibility accounting is that type of management accounting that collects and reports both planned actual accounting information in terms of responsibility centres."

- Anthony and Reece

Responsibility accounting "is a system of accounting in which costs and revenues are accumulated and reported to managers based on the manager's control over these costs and revenues. The managerial accounting system that ties budgeting and performance reporting to a decentralized organization is called responsibility accounting."

- Schaltke, R.W. & Jonson, H. G

As per the above definition, Responsibility accounting is an accounting system in which cost data are reported to managers who are in-charge of various cost centres. In this system, budgets are prepared, and actual performance is recorded and reported.



Example: You are working as a production manager of Soaps Segment of Hindustan Unilever Limited. Being in the production manager's capacity, if you prepare the production cost budget of your department for the upcoming quarter, you will be made personally responsible for keeping the production cost under a set budget. You will be given all detailed information of each cost that will be incurred by your department. In case the actual production cost goes higher than the budgeted cost, you will be required to find reasons for such adverse variance in production cost and take required corrective measures. You will also be required to report such unfavourable variance to the top management and present the reasons for the same, along with corrective actions that you are proposing to bring the production cost under control.



Note:

Responsibility Accounting: Concept

- It is a control system where responsibility is assigned to a single person for the control of costs.
- Persons are made responsible for the control of costs.
- The proper authority is given to persons so that they can keep up their performance.
- If performance not up to the standards – persons are personally responsible for it.
- Emphasis is on men who use the control system rather than on the control system itself.

14.2 Pre-requisites or Essential Features of Responsibility Accounting

Inputs and Outputs or Costs and Revenues:

The effective execution of responsibility accounting system relies upon information relating to inputs and outputs. The physical resources used in an organization, such as the quantity of raw material used and labour hours consumed, are termed inputs. These inputs, when measured in monetary terms, are known as costs. Similarly, outputs such as products expressed in financial terms are called revenues.

Planned and Actual Information or Use of Budgeting:

A successful responsibility accounting system needs planned as well as actual financial information. The use of Budgeting is the foremost essential requirement for effective implementation of the Responsibility accounting system as planned, or predetermined performance for individual responsibility centres will be conveyed to each level of management through budgets. The use of various types of budgets such as flexible budgets, fixed budgets, cash budgets, master budgets, and profit planning are all incorporated into one overall responsibility accounting system.

Identification of Responsibility Centres:

Responsibility accounting cannot be executed without the identification of responsibility centres. The responsibility centres can be described as the sphere of authority or decision points in an organization. The number, scope of responsibility, and authority of each responsibility centres depend upon the size of an organization. As discussed earlier, generally, one person or a small number of persons, who are usually the owners, may manage or control the entire organization in the case of small and micro business firms. But large business firms usually decentralize themselves into the meaningful unit, divisions, business or geographical segments or departments. These sub-units or divisions of the organization are called responsibility centres. A responsibility centre is then put under the direct independent control of an individual who is personally responsible for controlling activities and performance of that sub-unit of the organization.

The scope or area of work of a responsibility centre may be very narrow or wide. It can be a very small sub-unit of the organization, or it may be a very big division of the organization. The companies usually follow a general guideline to identify responsibility centres which state that to represent one division, machine or unit as a responsibility centre then it has to be confirmed that the respective unit of the organization should be separable, identifiable for operating purposes, and it is possible to measure its performance effectively.



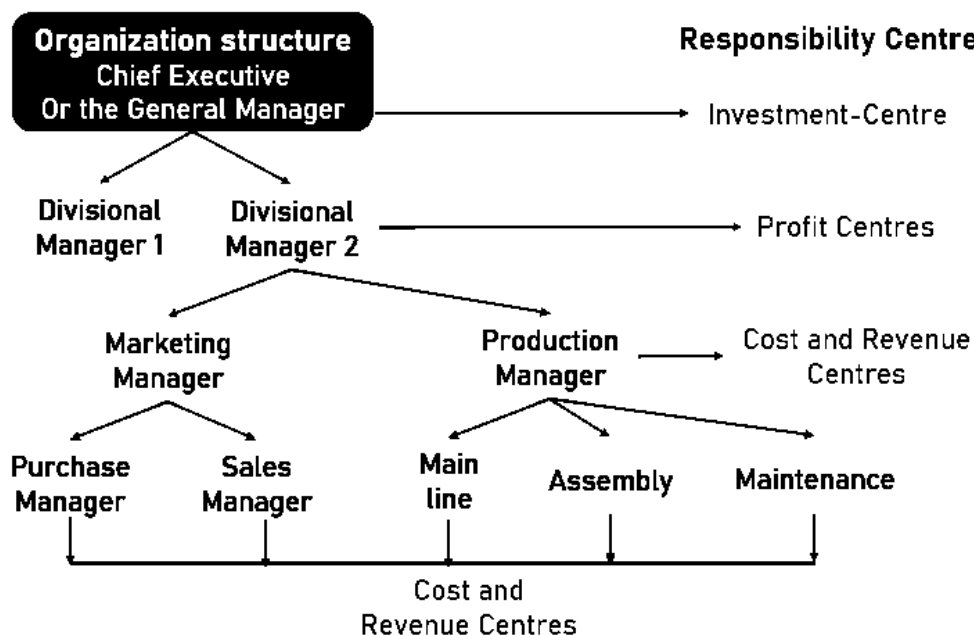
Examples:

- a) Mr. Sunil is a foreman in the production department of Raymond Textile Industry. He is made responsible for one Knitting machine used in knitting yarn. So, here in this example, the Knitting Machine is a responsibility centre which is a very small unit of Raymond Textile Industry.
- b) Mr. Salman is a manager of the Textile division of Raymond Limited Company. He is responsible for achieving a certain level of profit from the division and investment under his control. In this, the Textile division is a responsibility centre which is a very big unit of Raymond Limited company.

Relationship between Organization Structure and Responsibility Accounting System:

A sound organizational structure with clear-cut lines of authority – responsibility relationships is a pre-requisite for setting up an effective and successful responsibility accounting system. Further, the responsibility accounting system must be designed in such a way as it must suit the organizational structure. Organization structure and responsibility accounting should run as parallel to each other.

The following Chart is showcasing the relationship between organization structure and responsibility centres:



Source: <https://www.yourarticlelibrary.com/accounting/responsibility-accounting/responsibility-accounting-meaning-features-and-steps-for-achieving-goals/67700#:~:text=Responsibility%20Accounting%20is%20a%20system,to%20keep%20up%20their%20performance.>

Assigning Costs to Individuals and Limiting their Efforts to Controllable Costs:

Once various responsibility centres are identified, and authority-responsibility relationships are established, the next essential to follow is assigning costs and revenues to individuals. It is the requirement of an effective responsibility accounting system as a control device that only those costs and revenues over which an individual has a definite control can be and should be assigned to him for evaluating his performance. Unlike the traditional costing system, which classifies and accumulates the various costs as per function, responsibility accounting classifies and accumulates the various costs as per controllability. It makes a clear distinction between controllable and uncontrollable costs.

The following guidelines that are recommended by the Committee of the American Accounting Association regarding assigning of costs may be followed:

(a) If the person has authority over both the acquisition and use of the services, then he should be held responsible for the cost of these services.

(b) If the person can significantly influence the amount of cost through his action, then he should be held responsible for such costs.

(c) If management desires a particular person should be responsible for certain costs even if he does not have any significant control over such costs, then he should be held responsible for such costs.

Transfer Pricing Policy:

In decentralized enterprises, it is a routine and frequent exercise to transfer goods and services of one organization's division to another. Thus, it is required to determine the price at which the transfer should be made to accurately assign costs and revenues to both divisions in such situations. As studied earlier, the transfer price will be a source of revenue for transferring division, and it will be a cost element for buying or transferred division. Hence, for the successful implementation of the responsibility accounting system, formulating a proper transfer pricing policy is an essence.

Performance Reporting:

Responsibility accounting acts as a control device. Thus, for an effective control system, there is a need for observing and reporting the deviations from the plans at the earliest to take corrective actions in time. Thus, the responsibility accounting system emphasized making and communicating performance reports, also known as 'responsibility reports,' prepared for each responsibility unit on a regular basis. These reports should be addressed to appropriate persons in respective responsibility centres. A specimen of a performance report is given below:

Performance Report			
Department_____	Month Ending_____		
	Actual (₹)	Budget (₹)	Variance (₹)
Controllable Costs: Direct material Direct labour Direct Expenses ----- -----			
Allocated and Uncontrollable Costs: Depreciation Rent Insurance ----- -----			
Total Cost			

Source: <https://www.yourarticlelibrary.com/accounting/responsibility-accounting/responsibility-accounting-meaning-features-and-steps-for-achieving-goals/67700#:~:text=Responsibility%20Accounting%20is%20a%20system,to%20keep%20up%20the%20performance.>

Participative Management:

The participative or democratic style of management makes the responsibility accounting system more effective. When plans are made, or budgets/ standards are determined as per the mutual consent of heads and subordinates, it motivates the subordinates to give their best for achieving that predetermined and self-imposed fixed performance.

Management by Exception:

A successful responsibility accounting system must promote management by exception, i.e., it should direct the attention of top management on significant deviations and not burden them with all kinds

of routine and insignificant matters. It should provide condensed reports requiring their attention to higher levels of management.

Human Aspect of Responsibility Accounting:

The objective of responsibility accounting is not to place blame; rather, it is to evaluate the performance and provide genuine feedback to improve future operations. Goals and objectives are achieved through people and, hence, the responsibility accounting system should motivate people. It should be used in a positive spirit. It should not be taken as a device to punish subordinates.

14.3 Responsibility Centres

A responsibility centre is a point in an organization where the control over revenue or expense is located, e.g., division, department or a single machine. As discussed earlier, it is the area of authority or decision points or division in an organization for which a manager is held responsible. In simple words, when large companies divide themselves into various manageable and meaning sub-units, divisions, departments, business segments, geographical segments or others for exercising effective control over its operations, then these created sub-units, divisions, departments or segments are termed as responsibility centres. It acts like a small business to attain the goals of a large organization. For successfully achieving the vision, mission and goals of a large organization, it is required to coordinate the activities of all its responsibility centres. Responsibility centres can be found in small and large organizations.

"A responsibility centre is a specific unit in an organization assigned to a manager who is held responsible for its operations and resources."

- Deakin and Mather

"A responsibility centre is a segment of the organization, where an individual manager is held responsible for its segments' performance."

- CIMA

14.4 Types of Responsibility Centres

Companies can identify the following four types of Responsibility Centres to exercise effective managerial control.

1. Cost Centre or Expense Centre
2. Revenue Centre
3. Profit Centre
4. Investment Centre

Cost Centre or Expense Centre

It is a business segment that incurs only expenses or costs but does not generate revenue. It is a sub-unit of the organization that has control over inputs and their cost only. It has no control over revenues and investments. Thus, the manager of a cost centre is only responsible for the costs that are under his direct and significant control, not for its revenues and investments. The evaluation of a manager's performance for cost Centres is based on his or her ability to meet budgeted goals for controllable costs.

"It is a production or service location, function, activity or item of equipment whose costs may be attributed to cost units."

- CIMA



Examples:

Production department, Repairs & Maintenance department, Accounting department, Legal department, Service department etc.



Note: As the contribution of accounting, legal, repairs, and maintenance or service department cannot be measured in monetary terms, and they incur only expenses so, they will be termed as

expense or cost centres. Sometimes, it is either not feasible or necessary to measure the output of some responsibility centres; then such centres are also treated as cost centres.



Caution:

The production department does produce output, but that output is not sold to external customers by the production department itself. However, its output is transferred to the sales department to sell the products to ultimate customers. That is the reason behind creating the production department as a cost centre. The manager of a production department will be responsible for costs that its department will incur to produce the budgeted number of units.



Task:

You are the manager of the Finishing Department of Fox Manufacturing Company. You have been provided with all types of costs that have been incurred by your department in January 2020. As you have to report your department's performance to Top management, you have prepared a performance report of your department as follows to be presented to Top management.

FOX MANUFACTURING COMPANY Finishing Department Responsibility/Performance Report For the month ended January 31, 2020			
Controllable Cost	Budget (₹)	Actual (₹)	Variance (₹)
Indirect material	13,500	14,000	500 U
Indirect labour	18,000	17,000	1,000 F
Utilities	4,500	4,000	100 U
Supervision	4,000	4,000	-0-
	40,000	29,600	400 F

Top management may want an explanation of these variance.

Source: Author

Being a Departmental head, you would be required to:

- a) provide reasons to top management for adverse or unfavourable variance in the various controllable cost incurred by your department?
- b) give corrective measures to avoid such avoidable variance in the future.

Revenue Centre

A business segment where the manager has control over generating or earning revenues only and does not control the cost of products/service or the investment made in the responsibility centre.



Examples: Sales Department, Reservation Department, Ticket Counters, Valet Parking Division for Hotels.



Note: The managers of aforesaid departments will be just focused on increasing the number of units sold or their customer base. Thus, they are responsible for only maximizing the revenues of their centres. That is why these centres are termed Revenue centres.

Profit Centre

It is a sub-unit of the business that has control over both revenues and costs, i.e., inputs and outputs but has no control over investment funds. The difference between the revenue earned and costs incurred will be a profit if it is a positive figure, and it will be a loss if it is a negative figure. Hence, the managers of profit centres are responsible for both earned revenues and incurred costs. The profit

centre may earn revenue by selling its output to internal customers (other sub-divisions of the organization) or external customers. If the output is sold to external customers, then the revenue will be measured at the selling price. However, if the output is transferred to internal customers, then the revenue will be measured as per the decided transfer pricing policy. In such a case, even it is the discretion of management to treat such a centre as a Profit centre or not. Generally, If the transfer is made on cost price, then such transferring division is not termed as a Profit centre. The income statement of the Profit Centre is used as a control device. It is the responsibility of the manager of the profit centre to achieve budgeted profit by increasing revenues and controlling costs simultaneously. The managers of such centres always aim to maximize the profits of their centres by taking decisions related to production volume, production techniques, sales mix, setting sale price, make or buy decision, credit policy, promotion and marketing strategy etc.

"It is a part of a business accountable for costs and revenues. It may be called a business centre, business unit, or strategic business unit."

- CIMA



Examples:

- Individual shops in a retail chain.
- Local branches in a regional or nationwide distribution business.
- A geographical region - e.g., a country (for multinationals) or region within a country.
- Individual divisions, departments, or products.

At times of reporting the performance of profit centres, the managers so make the distinction between direct and indirect fixed cost. Direct fixed costs or traceable costs are those costs that relate specifically to a responsibility centre and are incurred for the sole benefit of the centre. On the other hand, Indirect fixed costs pertain to a company's overall operating activities and are incurred for the benefit of more than one profit centre. Mostly indirect costs are uncontrollable by the profit centre manager. Thus, they are not held responsible for an increase in such indirect fixed costs.

Investment Centre

It is a business unit in a firm that can utilize capital to contribute directly to a company's profitability. Companies evaluate the performance of an investment centre according to the revenues it brings in through investments in capital assets compared to the overall expenses. In simple words, it is a business segment in which a manager has control over costs, revenues as well as investment. The manager can control or significantly influence the investment funds available for use. Thus, the manager of the investment centre is responsible for earning a good rate of return on the assets employed in his or her investment centre by taking optimum utilization of such assets. They are accountable for making decisions related to capital investment, working capital management, capital structure etc.

"It is a profit centre whose performance is measured by its return on capital employed."

- CIMA



Example:

Lakme Lever Private Limited (LLPL) is a 100% subsidiary of Hindustan Unilever Limited. It is engaged in Salons Business and also operates a manufacturing unit that carries out job work operations for Hindustan Unilever Limited, manufacturing toilet soaps, bathing bars and detergent bars. Here, LLPL is an investment centre of HUL. Pushkaraj Shenai, CEO of LLPL, will be responsible for its operation Costs and Revenues. He also has control over the investments in terms of assets in LLPL, and hence, he will be accountable for earning a fair amount of return on investment that he has decided to put in the business of LLPL.

The performance of an Investment Centre is evaluated on its earned Return on Investment (ROI). ROI is considered as a superior measure to any other performance measurement for performance evaluation as it shows the effectiveness of the manager in utilizing the assets at his or her disposal.



Caution:

Performance evaluation of investment centres may become difficult if certain assets are being used by more than one investment centre or in such a situation where the assets have one centre but are used by other responsibility centres.

14.5 Principles of Responsibility Accounting/Steps involved in implementing Responsibility Accounting

The following steps are involved in the effective execution of Responsibility accounting as a managerial control system.

Identification of responsibility centres

Responsibility centres are identified by dividing the organization into various meaningful sub-unit. Then, the various identified responsibility centres are put under the charge of one individual head/manager. The managers are accountable for the performance of their responsibility centres.

Fixation of Targets for each responsibility centre

Budgeted performance/targets/goals are determined for each responsibility centre in consultation with their respective managers so that they and their team will be motivated to achieve self-determined targeted performance. Once targets are fixed, they are communicated to the concerned responsibility centres' managers and a higher level of management.

Making a comparison between actual and target performance

The actual performance of each responsibility centre is observed and recorded on a regular basis. The performance reports are prepared in which actual performance is compared with a target performance. These reports are then communicated to the executive concerned. It helps in assessing the work of these centres.

Analyzing the variance in performance

If the actual performance of a responsibility centre is below the standard set, then the unfavourable/adverse variances are conveyed to the top management. The responsible manager's name is also conveyed along with the variance report so that the responsibility of such low performance may be fixed.

Taking corrective measures

Timely action is taken to take necessary corrective measures so that the work does not suffer in future. The directions of the top-level management are communicated to the concerned responsibility centre so that corrective measures are initiated at the earliest.

Exclusion of uncontrollable cost

Only those costs and revenues over which an individual manager has definite control can be attributed to him for evaluating his performance while making performance reports.

14.6 Advantages of Responsibility Accounting

- It establishes a sound mechanism for control.
- It forces the management to consider the organizational structure and examines who is responsible for what, and fix the delegation of power.
- It encourages Budgeting with which actual achievement can be compared.
- It increases the interest and awareness of the officers as they are called upon to explain the deviations for which they are responsible.
- The exclusion of items that are beyond the scope of the individual's responsibility simplifies the structure of the reports and facilitates promptness in reporting.

14.7 Limitations of Responsibility Accounting

- Adherence to the pre-requisites for a successful responsibility accounting system is a difficult task.

- The traditional way of classification of expenses needs to be subjected to a further analysis which becomes difficult.
- Certain managers may require additional classification, particularly if the responsibility reports are different from routine reports at the time of introducing the system as a control device. Thus, it will increase the time and finance cost for the organization.
- It may result in inter-departmental conflicts.



Task

Analyze different Centres of a food chain of your choice and categorize them into various types of responsibility Centres.

Summary

Responsibility accounting is a control system where individual persons are assigned responsibility for controlling costs. These individuals are given proper authority so that they can keep up their performance as per predetermined standards. They will be personally responsible for their immediate heads in case they fail to achieve predetermined performance. It is of immense use for large diversified companies as it is difficult to exercise direct control over the operations of several divisions through Head office. So, such large companies divide themselves into various sub-units known as responsibility centres. These responsibility centres are put under the control of a single individual manager who is personally responsible for the performance of assigned responsibility centres. The companies have to follow certain pre-requisites for effective implementation of responsibility accounting as a managerial control system. An effective responsibility accounting system requires a clear organizational structure, use of budgetary control and a proper management reporting system. Management should positively use responsibility accounting as a source of motivating employees to achieve targets rather than as a punishment tool. Then only, it can be proved as an effective and successful control device.

Keywords

Cost Centre: A business segment that has control over the incurrence of costs. The manager of the cost centre is solely responsible for the incurrence of certain costs – for example, the paint department in an automobile company.

Investment Centre: A business unit where the unit manager has the responsibility and the authority to make decisions that affect not only costs and revenues but also the assets invested in the centre. A typical investment centre is a subsidiary entity, for whose financial performance and position, the subsidiary's CEO is responsible.

Profit Centre: A business segment that is responsible for both revenues and expenses, which result in profits and losses. A typical profit centre is a product line, for which a product manager is responsible.

Responsibility Accounting: It is a system of control where responsibility is assigned to a single person for the control of costs.

Responsibility Centre: A responsibility centre is a segment of the organization where an individual manager is held responsible for its segments' performance.

Revenue Centre: A business division that is solely responsible for generating sales. For example, the reservation department in an airline.

Self-Assessment/Evaluation

1. Which of the following statements are true about responsibility accounting?
 - A. Responsibility accounting results in inter-departmental conflicts
 - B. In the responsibility centre, more focus is paid on products, processes or jobs
 - C. No focus is paid on controlling costs
 - D. Managers are responsible for the total cost of their centres
2. Which of the following is a responsibility centre?
 - A. Expense centre

-
- B. Profit centre
C. Investment centre
D. All of the above
3. The responsibility centres, for control purposes, may be classified into ____ types.
- A. Five
B. Three
C. Four
D. Two
4. In responsibility cost accounting, the costs in focus are:
- A. Controllable costs
B. Uncontrollable costs
C. Both A and B
D. None of the above
5. The area of focus on responsibility centre is
- A. Quantum of sales
B. Quantum of production
C. Optimum utilization of resources
D. All of the above
6. An underlying concept of budgeting and standard cost systems is
- A. The concept of statistical control limits
B. The concept of continuous improvement
C. The concept of quality at the source
D. The concept of responsibility accounting
7. Which type of responsibility centre has the greatest amount of autonomy?
- A. A revenue centre
B. A cost centre
C. A profit centre
D. An investment centre
8. Responsibility accounting is not useful in following the principle of management by exception.
- A. True
B. False
9. In cost centres, managers have no revenue responsibilities.
- A. True
B. False
10. Which of the following correctly describes a cost centre?
- A. A business segment whose manager has control over costs but not over revenue or investment funds
B. A business segment whose manager has control over both cost and revenue, but not investment funds
C. A business segment whose manager has control over cost, revenue and investments
D. All of the above

11. A business division that is solely responsible for generating sales:
- A revenue centre
 - A cost centre
 - A profit centre
 - An investment centre
12. _____ is a system of control where responsibility is assigned to single person for the control of costs.
- Responsibility Centre
 - Responsibility Accounting
 - Management by Exception
 - Performance Reporting
13. Which of the following is/are pre-requisite of implementing responsibility accounting?
- Performance reporting
 - Management by exception
 - Identification of responsibility centres
 - All of the above
14. The objective of responsibility accounting should not be to place blame; rather, it should evaluate the performance and provide genuine feedback to improve future operations.
- True
 - False
15. _____ is the centre, the manager of which has control over its costs and revenues but not over its investment.
- A revenue centre
 - A cost centre
 - A profit centre
 - An investment centre

Answer: Self-Assessment

1. A 2. D 3. C 4. A 5. C 6. D 7. D 8. D
 9. A 10. A 11. A 12. B 13. D 14. A 15. C

Review Questions

- Q1 What do you mean by Responsibility Accounting?
 Q2 Explain the pre-requisites of executing responsibility accounting in an organization.
 Q3 State the steps of implementing a responsibility accounting system in an organization.
 Q4 What do you mean by responsibility centres?
 Q5 Explain the various types of responsibility centres.
 Q6 Give the advantages of using a responsibility accounting system.
 Q7 List the limitation of the responsibility accounting system.

Further Readings



Books

- M.N. Arora, *Cost and Management Accounting*, 8th Edition, Vikas Publishing House (P) Ltd.

2. Shashi K. Gupta and R.K. Sharma, *Financial Management (Theory and Practice)*, 8th Edition, Kalyani Publishers.



Online Links

1. <https://www.accountingtools.com/articles/what-is-a-responsibility-center.html>
2. <https://www.wallstreetmojo.com/responsibility-accounting/>
3. <https://www.vedantu.com/commerce/responsibility-accounting>
4. <https://www.yourarticlelibrary.com/accounting/responsibility-accounting/responsibility-accounting-meaning-features-and-steps-for-achieving-goals/67700#:~:text=Responsibility%20Accounting%20is%20a%20system,to%20keep%20u p%20their%20performance.>
5. <https://efinancemanagement.com/budgeting/responsibility-accounting>

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