

ACCOUNTING FOR MANAGEMENT

UNIT I

Introduction to Financial Accounting

Concept: Meaning, Definition and Scope of Financial Accounting; Accounting concepts and conventions, their implications on accounting system –Double Entry Accounting System – Accounting Process – Types of Accounts – Primary and Secondary Record – Preparation of Journal, Ledger Posting Balancing and Preparation of Trial Balance (Including Numerical Problems) - Accounting Equation – Static and Dynamic view - Accounting standards – their rationale and growing importance in global accounting environment, International Financial Reporting Standards (IFRS).

ACCOUNTING - INTRODUCTION

Accounting is aptly called the language of business. This designation is applied to accounting because it is the method of communicating business information. The basic function of any language is to serve as a means of communication. Accounting duly serves this function. The task of learning accounting is essentially the same as the task of learning a new language. But the acceleration of change in business organization has contributed to increase the complexities in this language. Like other languages, it is undergoing continuous change in an attempt to discover better means of communications. To enable the accounting language to convey the same meaning to all stakeholders, it should be made standard. To make it a standard language certain accounting principles, concepts and standards have been developed over a period of time. This lesson dwells upon the different dimensions of accounting, accounting concepts, accounting principles and the accounting standards.

Evolution of Accounting

Accounting is as old as money itself. It has evolved, as have medicine, law and most other fields of human activity in response to the social and economic needs of society. People in all civilizations have maintained various types of records of business activities. The oldest known are clay tablet records of the payment of wages in Babylonia around 600 B.C. accounting was practiced in India twenty-four centuries ago as is clear from kautilya's book Arthshastra' which clearly indicates the existence and need of proper accounting and audit. For the most part, early accounting dealt only with limited aspects of the financial operations of private or governmental enterprises. Complete accounting system for an enterprise which came to be called as —double entry system‖ was developed in Italy in the 15th century. The first known description of the system was published there in 1494 by a Franciscan monk by the name Luca Pacioli. The expanded business operations initiated by the industrial revolution required increasingly large amounts of money which in turn resulted in the development of the corporation form of organizations. As corporations became larger, an increasing number of individuals and

institutions looked to accountants to provide economic information about these enterprises. For e.g. Prospective investors and creditors sought information about a corporation's financial status. Government agencies required financial information for purposes of taxation and regulation. Thus accounting began to expand its function of meeting the needs of relatively few owners to a public role of meeting the needs of a variety of interested parties.

Definition of Accounting

Before attempting to define accounting, it may be made clear that there is no unanimity among accountants as to its precise definition. Anyhow let us examine three popular definitions on the subject:

Accounting has been defined by the American accounting association committee as: “the process of identifying, measuring and communicating economic information to permit informed judgments and decisions by users of the information”. This may be considered as a good definition because of its focus on accounting as an aid to decision making.

Another popular definition on accounting was given by American accounting principles board in 1970, which defined it as: —accounting is a service society. Its function is to provide quantitative information, primarily financial in nature, about economic entities that is useful in making economic decision, in making reasoned choices among alternative courses of action”.

Nature and scope of Accounting

- Accounting may be regarded as an art of recording, classifying and summarizing of money transactions and events .
- Accounting may be regarded as a science in its being able to use scientific and analytical techniques for solving managerial problems.
- Accounting may be regarded as an information system for providing information needed by the stakeholders .
- Accounting may be regarded as a service function in being able to serve the society through social accounting.
- Accounting may be regarded as a language of the business because the preparers and interpreters of the financial information should understand the common language of accounting.

Limitations of Accounting

Historical information: Accounting reports are based on the past historical information.

Financial information: Accounting does not reveal non monetary information like customer satisfaction, market competition, market share, etc.

Inadequate Cost information: Accounting does not provide cost information to gauge the product or department-wise profitability

Personal judgment: Financial information is clouded by personal judgment of the preparers like provisions, valuations, etc.

FUNCTIONS OF ACCOUNTING:

Keeping Systematic Records:

This is the fundamental function of accounting. The transactions of the business are properly recorded, classified and summarized into final financial statements – income statement and the balance sheet. Protecting.

The Business Properties:

The second function of accounting is to protect the properties of the business by maintaining proper record of various assets and thus enabling the management to exercise proper control over them.

Communicating The Results:

As accounting has been designated as the language of business, its third function is to communicate financial information in respect of net profits, assets, liabilities, etc., to the interested parties.

Meeting Legal Requirements:

The fourth and last function of accounting is to devise such a system as will meet the legal requirements. The provisions of various laws such as the companies act, income tax act, etc., require the submission of various statements like income tax returns, annual accounts and so on. Accounting system aims at fulfilling this requirement of law.

GROUPS INTERESTED IN ACCOUNTING INFORMATION

There are several groups of people who are interested in the accounting information relating to the business enterprise. Following are some of them:

Shareholders:

Shareholders as owners are interested in knowing the profitability of the business transactions and the distribution of capital in the form of assets and liabilities. In fact, accounting developed several centuries ago to supply information to those who had invested their funds in business enterprise.

Management:

With the advent of Joint Stock Company form of organization the gap between ownership and management widened. In most cases the shareholders act merely as renderers of capital and the management of the company passes into the hands of professional managers. The accounting disclosures greatly help them in knowing about what has happened and what should be done to improve the profitability and financial position of the enterprise.

Potential Investors:

An individual who is planning to make an investment in a business would like to know about its profitability and financial position. An analysis of the financial statements would help him in this respect.

Creditors:

As creditors have extended credit to the company, they are much worried about the repaying capacity of the company. For this purpose they require its financial statements, an analysis of which will tell about the solvency position of the company.

Government:

Any popular government has to keep a watch on big businesses regarding the manner in which they build business empires without regard to the interests of the community. Restricting monopolies is something that is common even in capitalist countries. For this, it is necessary that proper accounts are made available to the government. Also, accounting data are required for collection of sale-tax, income-tax, excise duty etc.

Employees:

Like creditors, employees are interested in the financial statements in view of various profit sharing and bonus schemes. Their interest may further increase when they hold shares of the companies in which they are employed.

Researchers:

Researchers are interested in interpreting the financial statements of the concern for a given objective.

Citizens:

Any citizen may be interested in the accounting records of business enterprises including public utilities and government companies as a voter and tax payer.

GAAP (generally accepted accounting principles)

Generally Accepted Accounting Principles (GAAP) are basic accounting principles and guidelines which provide the framework for more detailed and comprehensive accounting rules, standards and other industry-specific accounting practices. For example, the Financial Accounting Standards Board (FASB) uses these principles as a base to frame their own accounting standards. Thus GAAP encompasses:

- Basic accounting principles/guidelines
- Accounting Standards usually issued by the premier accounting body of the country
- Industry-specific accounting practices to cover unusual scenarios

In India, financial statements are prepared on the basis of accounting standards issued by the Institute of Chartered Accountants of India (ICAI) and the law laid down in the respective applicable acts (for example, Schedule III to Companies Act, 2013 should be compulsorily followed by all companies). The ICAI also releases guidance notes from time to time on various topics to help in the accounting process and provide clarity. While the basic accounting principles may not directly form part of the accounting standards and the related laws, they are assumed and expected to be universally followed.

Generally Accepted Accounting Principles

The following are the general accounting principles as mentioned earlier:

- **Business Entity Assumption:** It states that every business entity should be treated as an entity that is separate from its owners. Therefore, all financial transactions should also be distinguished in such a manner. This concept is especially important while recording financial transactions of a sole proprietor. When the entire business with its assets and liabilities belong to the proprietor, the financial transactions need to be distinguished between those related to the business and those related to the proprietor personally.
- **Monetary Unit Assumption:** All the financial transactions of a business should be capable of being expressed in a monetary unit (Indian Rupees, for example) and if it is not possible to do so, then it should not be recorded in the books of accounts of the business.
- **Accounting Period:** This principle entails that the accounting process of a business should be completed within a certain time period which is usually a financial year or a calendar year. Thus, every transaction which relates to a particular accounting period will form a part of the financial statements prepared for that period.
- **Historical Cost Concept:** As a general rule, when certain economic resources or assets are acquired by an enterprise, they are recorded as per the cash or cash equivalent actually spent to acquire that resource or asset on the transaction date – even if the transaction happened the previous day or ten years ago. This would result in the value of the remaining asset constant irrespective of the accounting period. The market value of the asset is not taken into account unless specifically required by law or an accounting standard.

- **Going Concern Assumption:** The business entity is assumed to be a going concern, i.e., it will continue to operate for an indefinite amount of time. This assumption is important because if the business entity were to liquidate in the near future, it would have to restate its assets and liabilities in the accordance with the actual amount that could be realised or payable as the case may be so as to reflect the true financial position of the entity.
- **Full Disclosure Principle:** An accounting entry may not independently be able to provide all the relevant information relating to the transaction. Hence the full disclosure principle requires the entity to disclose all the financial information relevant to the investor/user to assist him in decision making. At the transactional level, this is done by recording an adequate narration with every transaction and at the financial statement level, this is implemented by providing notes to the accounts.
- **Matching Concept:** This concept requires the revenue for a particular period to be matched with its corresponding expenditure so as to show the true profit for the period.
- **Accrual Basis of Accounting:** This principle requires all revenue and expenditure to be recorded in the period it is actually incurred and not when cash or cash equivalent has been received/spent. The earning of the income and the incurring of the expenditure is important, irrespective of the corresponding cash flow.
- **Consistency:** An entity may decide to follow a particular accounting procedure in relation to a series of transactions. Such accounting procedures need to be followed consistently over the following accounting periods so as to facilitate comparison of the results between two periods. For example, an entity might choose to adopt the straight-line method of depreciation of its tangible fixed assets. This method needs to be consistently followed even in the coming years.
- **Materiality:** This accounting principle allows an entity to disregard another accounting principle if the result of the same does not affect the decision making of the user of the financial statements. Certain errors or omissions may also be ignored if their effect is immaterial to the financial statements. For example, when a fixed asset is purchased, the matching concept requires the entity to recognize the expenditure over the useful life of the asset. If an entity purchases a keyboard for Rs. 300 and the turnover of such an entity is in crores of rupees, it would be immaterial to the user of financial statements whether such an asset is recognized as an asset or expense. Thus, even if the computer keyboard is considered as an expense in the year of purchase, it would not be violating the basic accounting principles since the amount involved and the impact of the same is immaterial.
- **Conservatism:** In the process of accounting, one might come across various situations where there are two equally acceptable ways of accounting for a particular transaction. One might even have to choose between recording a transaction or not recording the same. In such a situation, a conservative approach should be followed. This means that while accounting for a particular transaction, all anticipated expenses or losses will need to be accounted for but all potential income or gains should not be recorded until actually earned/received. This is why a provision for expenses like bad debts is made but there is no corresponding record provided for an increase in the realisable value of an asset.

Double Entry Accounting System

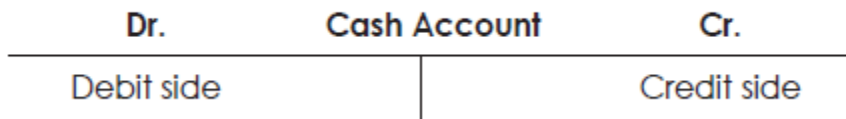
When one identifies the account that is getting affected by a transaction and type of that account, the next steps to apply the rules to decide whether the accounting treatment is to debit or credit that account. The Golden Rules will guide us whether the account is to be debited or credited.

The Concept of “Account”, “Debit” and “Credit”:

One must get conversant with these terms before embarking to learn actual record-keeping based on the rules.

An ‘Account’ is defined as a summarised record of transactions related to a person or a thing. e.g. when the business deals with customers and suppliers, each of the customers and supplier will be a separate account. We must know that each one of us is identified as a separate account by the bank when we open an account with them. The account is also related to things – both tangible and intangible. e.g. land, building, equipment, brand value, trademarks etc. are some of the things. When a business transaction happens, one has to identify the ‘account’ that will be affected by it and then apply the rules to decide the accounting treatment.

Typically, an account is expressed as a statement in form of English letter ‘T’. It has two sides. The left hand side is called as “Debit” side and the right hand side is called as “Credit” side. The debit is connoted as ‘Dr’ and the credit by ‘Cr’. The convention is to write the Dr and Cr labels on both sides as shown below.:

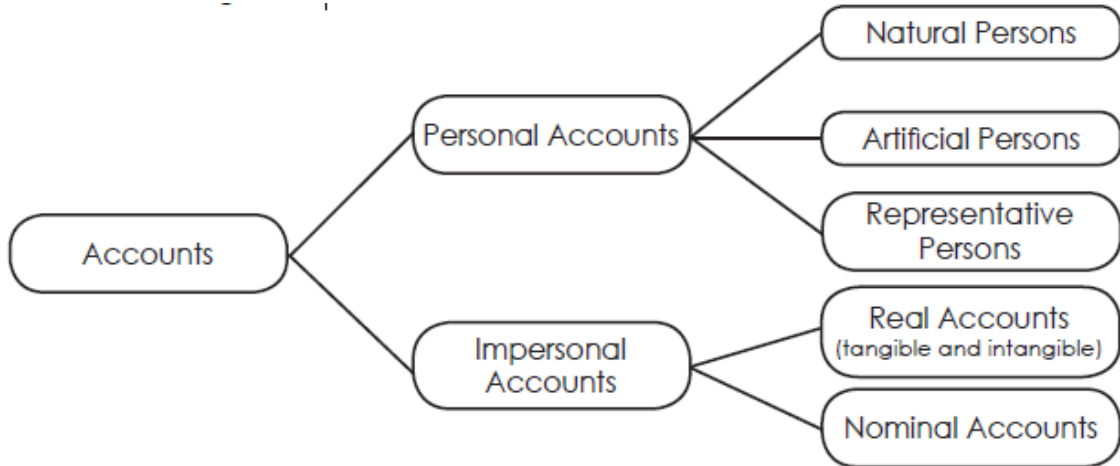


Each side of the account will show effects, so that one can easily take totals of both sides and find out the difference between the two. Such difference in the two sides of an account is called ‘balance’. If the total of debit side is more than the credit side, the balance is called as ‘debit balance’ and if the total of credit side is more than the debit side, the balance is called as ‘credit balance’. If the debit and credit side are equal, the account will show ‘nil balance’. The balances are to be computed at the end of an accounting period.

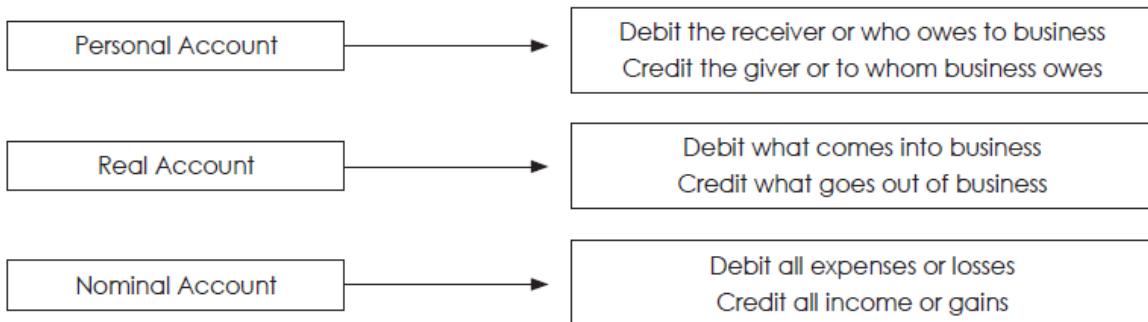
Types of Accounts:

We have seen that an account may be related to a person or a thing – tangible or intangible. While doing business transactions (that may be large in number and complex in nature), one may come across numerous accounts that are affected. How does one decide about accounting treatment for each of them? If common rules are to be applied to similar type of accounts, there must be a way to classify the account on the basis of their common characteristics.

Please take look at the following chart.

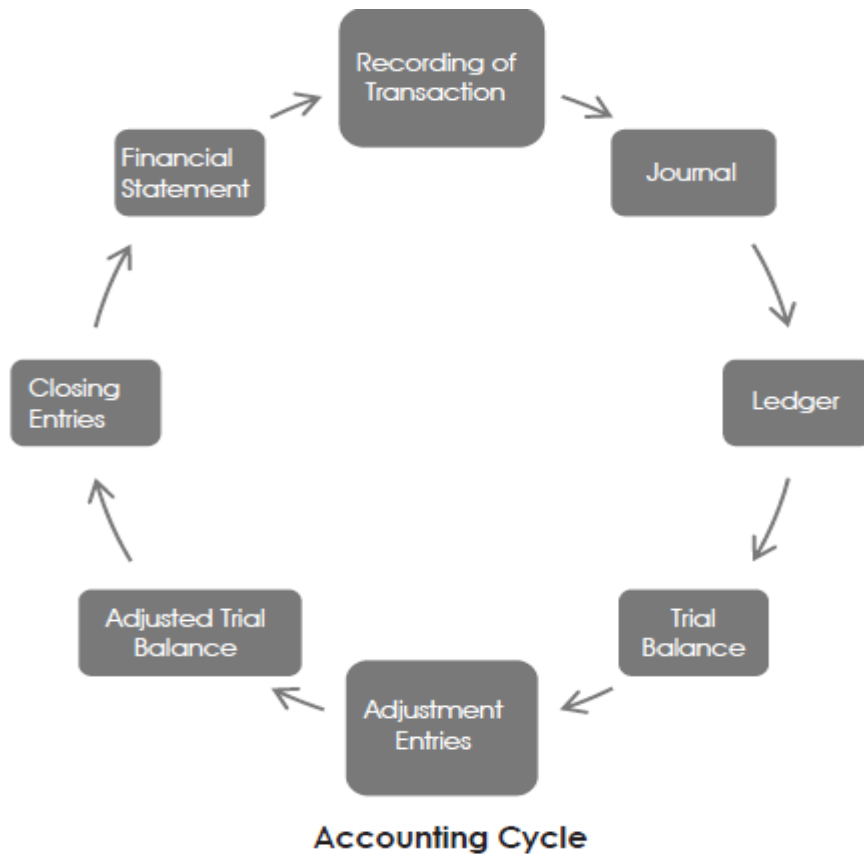


There is one rule for each basic type of account i.e. personal, real and nominal. These rules are shown in the following chart



Accounting Cycle

When complete sequence of accounting procedure is done which happens frequently and repeated in same directions during an accounting period, the same is called an accounting cycle.



Accounting Equations:

The whole Financial Accounting depends on Accounting Equation which is also known as Balance Sheet

Equation. The basic Accounting Equation is:

Assets = Liabilities + Owner’s equity

or $A = L + P$

or $P = A - L$ } Where A = Assets, L = Liabilities, P = Capital

or $L = A - P$

While trying to do this correlation, please note that incomes or gains will increase owner’s equity an expenses or losses will reduce it.

JOURNAL:

Meaning of Journal:

Journal is the book of original entry in which, after following the rules of debit and credit, all business transactions are recorded in a chronological order. The word journal has been derived from the French word —journal, which means —a day. Thus, journal means a book which records all monetary transactions of a business on daily basis.

The monetary transactions are recorded in chronological order i.e., in the order of their occurrence. As the recording of transactions is done first in the journal, it is also called book of original entry or prime entry. Journalizing is defined as the process of recording transactions in the journal. After determining the particular account to be debited and credited, each transaction is separately recorded.

Utility of Journal:

(i) **A primary book of original entry:** As the first recording of a transaction is done in the journal, it is called book of original entry or prime entry. All business transactions first find place in journal and then only they are recorded in separate ledger accounts.

(ii) **A fundamental book in line with the double entry book keeping:** After determining the particular account to be debited and credited, each transaction is separately recorded. If we do not open journal in an enterprise, chances of maintaining books of accounts, as per the principles of double entry system are remote.

(iii) **Transactions in chronological order:** All the transactions are recorded in the journal in chronological order. So, the chances of omitting any transactions in the books of accounts are very thin.

(iv) **Complete information about business transactions:** All journal entries are supported with brief narrations. These narrations help to understand the meaning and purpose of the transaction in future date.

(v) **Classification of all transactions becomes easier:** All journal entries are based on vouchers and are recorded in the journal as and when they occur. So, the transactions are classified spontaneously when they occur.

(vi) **Helps in division of labour:** In large business, journal is sub-divided into more than one. This sub-division helps to record one type of transactions in that book. For example, sales book records only credit sales and purchase book records only credit purchases. These sub-journals are handled and controlled by different and separate persons. In such cases, naturally, that person acquires expertise which helps the enterprise to achieve its common goal efficiently and effectively.

(vii)**Ensures arithmetical accuracy:** In journal, total of debit column and credit column should match and agree. Disagreement is a quick indication of commitment of some errors, which can be easily detected and rectified.

Limitations of Journal:

1. Bulky and voluminous: Journal is a main book of original entry which records all business transactions. Sometimes, it becomes so bulky and voluminous that it cannot be handled easily.
2. Information in scattered form: In this book, all information is recorded on daily basis and scattered form; hence it is very difficult to locate a particular transaction unless one remembers the date of occurrence of that transaction.
3. Time consuming: Unlike posting from subsidiary books, posting the transactions from journal to ledger accounts take too much time because every time one has to post the transactions in different ledger accounts.
4. Lack of internal control: Unlike other books of original entries like subsidiary books and cash book, journal does not facilitate the internal control, because in journal only transactions are recorded in chronological order. However, subsidiary books and cash book gives a clear picture of special type of transactions recorded therein.

The Ledger

The book in which accounts are maintained is called ledger. Generally, one account is opened on each page of this book, but if transactions relating to a particular account are numerous, it may extend to more than one page. All transactions relating to that account are recorded chronologically. From journal each transaction is posted to at least two concerned accounts - debit side of one account and credit side of another account. Remember that, if there are two accounts involved in a journal entry, it will be posted to two accounts in the ledger and if the journal entry consists of three accounts (compound entry) it will be posted to three different accounts in the ledger. The process of transferring information from journal to ledger accounts is known as posting. The goal of all transactions is ledger. Ledger is known as the destination of entries in journal but it must be remembered that transactions cannot be recorded directly in the ledger - they must be routed through journal.

So, the books in which all the transactions of a business concern are finally recorded in the concerned accounts in a summarized form is called ledger.

Characteristics of Ledger Account:

The ledger has the following main characteristics:

1. It has two identical sides - left hand side (debit side) and right hand side (credit side).

2. Debit aspect of all the transactions are recorded on the debit side and credit aspects of all the transactions are recorded on credit side according to date.
3. The difference of the totals of the two sides represents balance.
4. The excess of debit side over credit side indicates debit balance, while excess of credit side over debit side indicates the credit balance. If the two sides are equal, there will be no balance.

Generally the balance is drawn at the year end and recorded on the lesser side to make the two sides equal. This balance is known as closing balance.

The closing balance of the current year becomes the opening balance of the next year.

Posting Procedure:

Transferring information i.e. entries from journal to ledger accounts is called posting. The procedure of posting from journal to ledger is as follows:

Locate the ledger account from the first debit in the journal entry. Record the date in the date column on the debit side of the account. The date is the date of transaction rather than the date of the posting. Record the name of the opposite account (account credited in entry) in the particular (also known as reference column, description column etc) column. Record the page number of the journal in the journal reference (J.R) column from where the entry is being posted. Record the amount of the debit in the "amount column" Locate the ledger account for the first credit in the journal and follow the same procedure.

Balancing an Account:

The difference between the two sides of an account is its balance.

The balance is written on the lesser side to make the two sides equal. The process of equalizing the two sides of an account is known as balancing

The rules for balancing an account are stated as below: Add up the amount columns of both the sides of an account and write the totals in a separate slip of paper. Find out the difference of the two totals. Write down the difference on the lesser side of the account. Now total up both the sides and write the totals and draw double lines under them. Again write the difference on the opposite side below the double line. If the debit side of an account is heavier, its balance is known as debit balance. and if the credit side of an account is heavier its balance is known as credit balance. If the two sides are equal, that account will show zero balance. The rules for determining the balance is as follows:

It may be noted that at the time of balancing an account debit balance is placed on the credit side and credit balance on debit site. This balance is known as closing balance. What is closing balance in this year, is the opening balance of the next year.

Trial Balance

The Trial Balance is, as the name suggests, is a table where we lay out all our debit accounts and all our credit accounts to see if they balance or not. A trial balance is important because it acts as a summary of all of our accounts. By looking at our trial balance, we can immediately see our bank balance, our loan balance, our owner's equity balance. In fact, we can immediately see the balance of every single account in our business.

How to Make a Trial Balance First of all, we take all the balances from our ledgers and enter them into our trial balance table.

Remember the accounting equation:

DEBIT SIDE = Assets + Expenses + Drawings

CREDIT SIDE = Liabilities + Revenue + Owners Equity

SUBSIDIARY BOOKS

Subsidiary book is the sub division of Journal. These are known as books of prime entry or books of original entry as all the transactions are recorded in their original form. In these books the details of the transactions are recorded as they take place from day to day in a classified manner.

The important subsidiary books used are as following:-

-Cash Book : Used to record all the cash receipts and payments.

-Purchase Book : Used to record all the credit purchases.

-Sales Book : Used to record all the credit sales -Purchase Return Book : Used to record all goods returned by business to the supplier

-Sales Return Book : Used to record all good returned by the customer to the business.

-Bills Receivable Book : Used to record all accepted bills received by business. -Bills Payable Book : Used to record all bill accepted by us to our creditors.

-Journal Proper : Used to record those transactions for which there is no separate book. These subsidiary books are maintained because it may be impossible to record each transaction into the ledger as it occurs. And these books record the details of the transactions and therefore help the ledger to become brief. Future reference and any desired analysis becomes easy as transactions of similar nature are recorded together.

List the type of transactions entered in Journal proper. The Journal proper is used to record following transactions:-

- Opening Entries : are the entries which are made at the starting of the financial year.
- Closing Entries : At the close of the accounting period balances from the various accounts are transferred in order to balance the books of accounts. Thus, this process of transferring balances of the trading and profit and loss account at the end of year is called closing the books and entries passed at that time are called closing entries.
- Transfer Entries : are the entries which are passed in order to transfer one account to another account.
- Adjustment Entries : are passed at the end of an accounting period in order to modify the accounts.
- Rectification Entries : are passed to rectify the error detected the books through an entry in journal proper.
- Entries for rare transactions : Journal proper is used for rare transactions.
- Entries for which there is no special journal : When the transactions cannot be recorded in the above sub journals then the same are entered in the journal proper. Examples of such transactions are: Distribution of goods as free sample, Goods destroyed by fire, etc

Concept of Accounting Standards:

We know that Generally Accepted Accounting Principles (GAAP) aims at bringing uniformity and comparability in the financial statements. It can be seen that at many places, GAAP permits a variety of alternative accounting treatments for the same item. For example, different methods for valuation of stock give different results in financial statements. Such practices sometimes can misguide intended users in taking decision relating to their field. Keeping in view the problems faced by many users of accounting, a need for the development of common accounting standards was aroused.

For this purpose, the Institute of Chartered Accountants of India (ICAI), which is also a member of International Accounting Standards Committee (IASC), had constituted Accounting Standard Board (ASB) in the year 1977. ASB identified the areas in which uniformity in accounting was required. After detailed research and discussions, it prepared and submitted a draft to the ICAI. After proper examination, ICAI finalized them and notified for its use in financial statements.

Meaning of Accounting Standards:

Accounting standards are the written statements consisting of rules and guidelines, issued by the accounting institutions, for the preparation of uniform and consistent financial statements and also for other disclosures affecting the different users of accounting information.

Accounting standards lay down the terms and conditions of accounting policies and practices by

way of codes, guidelines and adjustments for making the interpretation of the items appearing in the financial statements easy and even their treatment in the books of account.

Nature of Accounting Standards:

On the basis of foregoing discussion we can say that accounting standards are guide, dictator, service provider and harmonizer in the field of accounting process.

(i) Serve as a guide to the accountants:

Accounting standards serve the accountants as a guide in the accounting process. They provide basis on which accounts are prepared. For example, they provide the method of valuation of inventories.

(ii) Act as a dictator:

Accounting standards act as a dictator in the field of accounting. Like a dictator, in some areas accountants have no choice of their own but to opt for practices other than those stated in the accounting standards. For example, Cash Flow Statement should be prepared in the format prescribed by accounting standard.

(iii) Serve as a service provider:

Accounting standards comprise the scope of accounting by defining certain terms, presenting the accounting issues, specifying standards, explaining numerous disclosures and implementation date. Thus, accounting standards are descriptive in nature and serve as a service provider.

(iv) Act as a harmonizer:

Accounting standards are not biased and bring uniformity in accounting methods. They remove the effect of diverse accounting practices and policies. On many occasions, accounting standards develop and provide solutions to specific accounting issues. It is thus clear that whenever there is any conflict on accounting issues, accounting standards act as harmonizer and facilitate solutions for accountants.

Objectives of Accounting Standards:

In earlier days, accounting was just used for recording business transactions of financial nature. Its main emphasis now lies on providing accounting information in the process of decision making.

For the following purposes, accounting standards are needed:

(i) For bringing uniformity in accounting methods:

Accounting standards are required to bring uniformity in accounting methods by proposing standard treatments to the accounting issue. For example, AS-6(Revised) states the methods for depreciation accounting.

(ii) For improving the reliability of the financial statements:

Accounting is a language of business. There are many users of the information provided by accountants who take various decisions relating to their field just on the basis of information contained in financial statements. In this connection, it is necessary that the financial statements show true and fair view of the business concern. Accounting standards when used give a sense of faith and reliability to various users.

They also help the potential users of the information contained in the financial statements by disclosure norms which make it easy even for a layman to interpret the data. Accounting standards provide a concrete theory base to the process of accounting. They provide uniformity in accounting which makes the financial statements of different business units, for different years comparable and again facilitate decision making.

(iii) Simplify the accounting information:

Accounting standards prevent the users from reaching any misleading conclusions and make the financial data simpler for everyone. For example, AS-3 (Revised) clearly classifies the flows of cash in terms of operating activities, investing activities and financing activities.

(iv) Prevents frauds and manipulations:

Accounting standards prevent manipulation of data by the management and others. By codifying the accounting methods, frauds and manipulations can be minimized.

(v) Helps auditors:

Accounting standards lay down the terms and conditions for accounting policies and practices by way of codes, guidelines and adjustments for making and interpreting the items appearing in the financial statements. Thus, these terms, policies and guidelines etc. become the basis for auditing the books of accounts.

ACCOUNTING STANDARDS

AS 1 Disclosure of Accounting Policies

AS 2 Valuation of Inventories

AS 3 Cash Flow Statements

AS 4 Contingencies and Events Occurring After Balance Sheet Date

AS 5 Net profit or Loss for the period, Prior Period Items and Changes in Accounting Policies

AS 7 Construction Contracts

AS 9 Revenue Recognition

AS 10 Property, Plant and Equipment

AS 11 The Effects of Changes in Foreign Exchange Rates

AS 12 Government Grants

AS 13 Accounting for Investments

AS 14 Accounting for Amalgamations

AS 15 Employee Benefits

AS 16 Borrowing Costs

AS 17 Segment Reporting

AS 18 Related Party Disclosures

AS 19 Leases
AS 20 Earnings Per Share
AS 21 Consolidated Financial Statements
AS 22 Accounting for Taxes on Income
AS 23 Accounting for Investments in Associates

AS 24 Discontinuing Operations
AS 25 Interim Financial Reporting
AS 26 Intangible Assets
AS 27 Financial Reporting of Interests in Joint Ventures
AS 28 Impairment of Assets
AS 29 Provisions, Contingent Liabilities and Contingent Assets

International Financial reporting Standards (IFRS)

- IFRS is a core set of accounting practices used across the globe
- It is a global framework and guidance for preparing the financial statements
- Global presentation of financial statements should conform to IFRS terminology
- Useful for companies having foreign subsidiaries
- It will stimulate flow of global capital and competition

UNIT-2

PREPARATION OF FINANCIAL STATEMENTS

CONCEPT:Preparation of Final Statements Distinction between capital and revenue expenditure; Depreciation concept and methods. Preparation and presentation of financial statements – Trading, Profit and loss account, Balance Sheet with adjustments for closing stock, outstanding expenses, accrued income, prepaid expenses, advance income, depreciation, loss/profit on sale, bad debts and provision for bad debts (Including Numerical Problems); provisions of the Indian Companies Act regarding preparation and presentation of financial statements; external auditor's report, the report of the Board of Directors, and voluntary disclosures

Introduction

The primary objective of any business concern is to earn income. Ascertainment of the periodic income of a business enterprise is perhaps the important objective of the accounting process. This objective is achieved by the preparation of profit and loss account or the income statement. Profit and loss account is generally considered to be of greatest interest and importance to end users of accounting information. The profit and loss account enables all concerned to find out whether the business operations have been profitable or not during a particular period. Usually the profit and loss account is accompanied by the balance sheet as on the last date of the accounting period for which the profit and loss account is prepared. A balance sheet shows the financial position of a business enterprise as of a specified moment of time. It contains a list of the assets, the liabilities and the capital of a business entity as of a specified date, usually at the close of the last day of a month or a year. While the profit and loss account is categorized as a flow report (for a particular period), the balance sheet is categorized as a status report (as on a particular date).

Basic Ideas About Income And Expense

Profit and loss account consists of two elements:

one element is the inflows that result from the sale of goods and services to customers which are called as revenues. The other element reports the outflows that were made in order to generate those revenues; these are called as expenses.

Income is the amount by which revenues exceed expenses. The term 'net income' is used to indicate the excess of all the revenues over all the expenses. The basic equation is:

$$\text{Revenue} - \text{Expenses} = \text{Net Income}$$

This is in accordance with the matching concept.

Income And Owner's Equity: The net income of an accounting period increases owner's equity because it belongs to the owner.

Income Vs. Receipts: Income of a period increases the owner's equity but it need not result in increase in cash balance. Loss of a period decreases owner's equity but it need not result in decrease in cash balance. Similarly, increase in cash balance need not result in increased income and owner's equity and decrease in cash balance need not denote loss and decrease in owner's equity. All these are due to the fact that income is not the same as cash receipt.

Expenses: An expense is an item of cost applicable to an accounting period. It represents economic resources consumed during the current period. When expenditure is incurred the cost involved is either an asset or an expense. If the benefits of the expenditure relate to further periods, it is an asset. If not, it is an expense of the current period. Over the entire life of an enterprise, most expenditure becomes expenses. But according to accounting period concept, accounts are prepared for each accounting period. Hence, we get the following four types of transactions relating to expenditure and expenses:

Expenditures That Are Also Expenses: This is the simplest and most common type of transaction to account for. If an item is acquired during the year, it is expenditure. If the item is consumed in the same year, then the expenditure becomes expense. E.g. Raw materials purchased are converted into saleable goods and are sold in the same year.

Assets That Become Expenses: when expenditures incurred result in benefits for the future period they become assets. When such assets are used in subsequent years they become expenses of the year in which they are used. For e.g. Inventory of finished goods are assets at the end of a particular accounting year. When they are sold in the next accounting year they become expenses.

Expenditures That Are Not Expenses: As already pointed, out when the benefits of the expenditure relate to future periods they become assets and not expenses. This applies not only to fixed assets but also to inventories which remain unsold at the end of the accounting year. For e.g. The expenditure incurred on inventory remaining unsold is asset until it is sold out.

Expenses Not Yet Paid: Some expenses would have been incurred in the accounting year but payment for the same would not have been made within the accounting year. These are called accrued expenses and are shown as liabilities at the year end.

Difference between Capital Expenditure and Revenue

Based on their duration, expenses can be categorized as capital expenditure and revenue expenditure. Business entities need to identify the costs incurred by way of these categories to

account for them accurately. Also, being familiar with their fundamentals and point of differences will help manage them more effectively and in turn, enable sustainable earnings.

What is Capital Expenditure?

Capital Expenditure or CAPEX make up those funds which are put to use to acquire, maintain or upgrade long-term assets. Typically, such expenses do not occur frequently and are incurred to boost a company's proficiency in the long-term.

Some potent capital expenses include – purchasing tangible assets like plant, plot, equipment, furniture, fixtures, etc. and intangible assets like – patent, license or trademark.

Generally, CAPEX influences a firm's short-term and long-term financial standing and also helps to boost its overall operations over the years. The formula of CAPEX is given as –

Capital expenditure = Net increase in PP & E + Depreciation Expense

The same is stated in a firm's Cash Flow Statement and is also acknowledged in its Balance Sheet, right under the header of fixed assets. It must be noted here that capital expenditure is capitalised. Further, depreciation is charged on CAPEX every year and is among the prominent differences between capital expenditure and revenue expenditure.

Types of Capital Expenditure

Capital expenditure is divided into these 3 distinct groups –

1. Expenses that a firm incurs to lower cost.
2. Expenses that help to boost overall earnings.
3. Expenses made on non-economic grounds.

In terms of outlay, CAPEX is distributed under these headers –

- Routine Expenditure
- Major projects
- Replacement

With this in the account, let us proceed to become familiar with the fundamentals of revenue expenses to gain a better understanding of the distinction between capital and revenue expenditure.

What is Revenue Expenditure?

Revenue expenditure or OPEX accounts for those expenses that a firm incurs during its course of operation. It can be defined as the total expenses that are incurred by firms through their course of production activities. Under normal circumstances, such costs do not result in asset creation, and the benefits resulting from OPEX is limited to one accounting year.

Typically, they are not responsible for generating or boosting the profit earning capacity of a company. Regardless, they play a key role in the aspect of managing operational activities and assets more optimally and are also considered vital for generating revenue within a given accounting period.

Some of the many revenue expenditure examples include – rent, salaries, wages, commission, freight charges, etc. Notably, factors like the nature of the business operation, the purpose of a venture, frequency of activities, etc. prove useful in categorising expenses as OPEX.

As far as accounting treatment is concerned, revenue expenditure for an accounting period is stated in a firm’s Income Statement. However, the same is not reported in the firm’s Balance Sheet. Also, such expenses may be applicable for tax deductions in a given accounting period because of their recurrence. It must also be noted that OPEX is not capitalized and depreciation is not levied on such expenses.

Types of Revenue Expenditure

In a general sense, types of revenue expenditure can be categorised under 2 distinct groups, namely –

- **Direct expenses**

These types of expenses are mostly incurred through the production process. The most common direct expenses include – direct wages, freight charge, import duty, commission, rent, legal expenses and electricity cost.

- **Indirect expenses**

These expenses pertain to the sale and distribution of finished goods or services. They include expenses like selling salaries, repairs, interest, commission, depreciation, rent and taxes, among others. Such costs may also include the money spent during the management of recurrent administrative expenses.

The table below highlights the prominent differences between capital expenditure and revenue expenditure –

Parameters	Capital Expenditure	Revenue Expenditure
Definition	Capital expenditure is the money spent by a firm to acquire assets or to improve the quality of existing ones.	Revenue expenditure is the money spent by business entities to maintain their everyday operations.
Time span	Capital expenses are incurred for the long-term.	Revenue expenses are incurred for a shorter-duration and are mostly limited to an accounting year.
Treatment in accounting	CAPEX is stated in a firm’s	OPEX is stated in a firm’s

books	Cash Flow Statement. It also appears in the Balance Sheet of a company under fixed assets.	Income Statement but is not necessarily reported in its Balance Sheet.
Yield	The yield of these expenses is not limited to a year and is usually long-term in nature.	The yield of these expenses is mostly limited to the current accounting period.
Occurrence	Typically, CAPEX is not quite recurrent.	OPEX makes up recurrent expenses.
Purpose	Such expenses are borne by a company to boost its earning capacity.	Such expenses are borne by a company to sustain its profitability.
Capitalisation of expenses	Capital expenses are capitalised.	Revenue expenses are not capitalised.
Treatment of depreciation	Depreciation of assets is charged on capital expenses.	Depreciation of assets is not levied on revenue expenditure.

Hence, both capital expenditure and revenue expenditure are vital for the sustainable profitability of a business venture. Mostly, revenue expenses are a periodic investment which does not result in immediate or delayed benefit. However, it is used to keep operations running uninterruptedly.

Alternatively, capital expenditure is considered to be a long-term investment that proves beneficial for a firm. Business entities must understand that they need to adopt effective strategies to monitor and regulate these expenses to boost overall profitability significantly.

Joint Stock Companies:

In the case of joint stock companies, according to the legal requirements, owners' equity is divided into two main categories. The first category called share capital or contributed capital is the amount the owners have invested directly in the business. The second category of owners' equity is called retained earnings.

Share capital is the capital stock pre-determined by the company by the time of registration. It may consist of ordinary share capital or preference share capital or both. The capital stock is divided into units called as shares and that is why the capital is called as share capital. The entire predetermined share capital called as authorised capital need not be raised at a time. That portion of authorised capital which has been issued for subscription as on a date is referred to as issued capital.

Retained earnings is the difference between the total earning to date and the amount of dividends paid out to the shareholders to date. That is, the difference represents that part of the total earnings that have been retained for use in the business. It may be noted that the amount of retained earnings on a given date is the accumulated amount that has been retained in the business from the beginning of the company's existence up to that date. The owners' equity

increases through retained earnings and decreases when retained earnings are paid out in the form of dividends.

DEPRECIATION

Introduction

With the passage of time, all fixed assets lose their capacity to render services, the exceptions being land and antiques. Accordingly, a fraction of the cost of the asset is chargeable as an expense in each of the accounting periods in which the asset renders services. The accounting process for this gradual conversion of capitalised cost of fixed assets into expense is called depreciation. This lesson explains the different aspects of depreciation.

Meaning Of Depreciation

In common parlance depreciation means a fall in the quality or value of an asset. But in accounting terminology, the concept of depreciation refers to the process of allocating the initial or restated input valuation of fixed assets to the several periods expected to benefit from their acquisitions and use.

Depreciation accounting is a system of accounting which aims to distribute the cost or other basic value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation and not of valuation.

The international accounting standards committee (iasc) (now international accounting standards board) defines depreciation as follows: depreciation is the allocation of the depreciable amount of an asset over the estimated useful life. The useful life is in turn defined as the period over which a depreciable asset is expected to be used by the enterprise. The depreciable amount of a depreciable asset is its historical cost in the financial statements, less the estimated residual value. Residual value or salvage value is the expected recovery or sales value of the asset at the end of its useful life.

Need For Depreciation Accounting

The need for depreciation accounting arises on three grounds:

1. To calculate proper profit: according to matching concept of accounting, profit of any year can be calculated only when all costs of earning revenues have been properly charged against them. Asset is an important tool in earning revenues. The fall in the book value of assets reflects the cost of earning revenues from the use of assets in the current year and hence like other costs like wages, salary, etc., it must also be provided for proper matching of revenues with expenses.

2. To show true financial position: the second ground for providing depreciation is that it should result in carrying forward only that part of asset which represents the unexpired cost of expected future service. If the depreciation is not provided then the asset will appear in the balance sheet at the overstated value.
3. To make provision for replacement of assets: if no changes were made for depreciation, profits of the concern would be more to that extent. By making an annual charge for depreciation, a concern would be accumulating resources enough to enable it to replace an asset when necessary. Replacement, thus, does not disturb the financial position of the concern.

METHODS OF DEPRECIATION:

Straight Line Method Of Depreciation

This method which is also known as fixed installment system', provides for equal amount of depreciation every year.

Under this method, the cost of acquisition plus the installation charges, minus the scrap value, is spread over the estimated life of the asset to arrive at the annual charge. In other words, this method writes off a fixed percentage, say 20%, of the original cost of the asset every year in such a way that the asset is reduced to nil or scrap value at the end of its life.

Evaluation:

The chief merit of this method is that it is easy to calculate depreciation, and hence, it is simple. Depreciation charge is constant from year to year, regardless of the extent of use of the asset. This method can be employed in the case of assets like furniture and fixtures, short leases, etc., which involve little capital outlay, or which have no residual value. This method is criticized on the ground that the depreciation charge remaining the same every year, cost of repairs and maintenance would be increasing as the asset becomes older. With the efficiency of the asset declining, it is unfair to charge the same amount of depreciation every year.

Diminishing Balance Method

This method which is also known as the, 'reducing installment system', or 'written down value method', applies depreciation as a fixed percentage to the balance of the net cost of the asset not yet allocated at the end of the previous accounting period. The percentage of depreciation is so fixed that, theoretically, the balance of the unallocated cost at the end of the estimated useful life of the asset should be equal to the estimated residual value.

Evaluation:

Unlike the fixed installment system, depreciation under this method is not fixed, but gradually decreasing. As such, in the initial periods, the amount will be much higher, but

negligible in the later period of the asset. Thus, this method tends to offset the amount of depreciation on the one hand and repairs and maintenance on the other. This method is also simple, although the calculation of depreciation is a bit complicated. Further, as and when additions are made to the asset, fresh calculations do not become necessary. This method is best suited to assets such as plant and machinery which have a long life.

Sum-of-the-Years' Digits Depreciation

The sum-of-the-years' digits method offers a depreciation rate that accelerates more than the straight-line method but less than the declining balance method. Annual depreciation is separated into fractions using the number of years of the business asset's useful life. Such assets may include buildings, machinery, furniture, equipment, vehicles, and electronics.

Sometimes called the "SYD" method, this approach is also more appropriate than the straight-line depreciation model if an asset depreciates more quickly or has greater production capacity during its earlier years.

Units of Production Depreciation

Units of production assigns an equal expense rate to each unit produced, which makes it most useful for assembly or production lines. The formula involves using historical costs (the price of an asset based on its nominal or original cost when acquired by the company) and estimated salvage values. The method then determines the expense for the accounting period multiplied by the number of units produced.

Preparation and presentation of Financial Statements:

Trading account:

Definition and Explanation:

The account which is prepared to determine the gross profit or gross loss of a business concern is called trading account. It should be noted that the result of the business determined through trading account is not true result. The true result is the net profit or the net loss which is determined through profit and loss account. The trading accounting has the following features: It is the first stage of final accounts of a trading concern. It is prepared on the last day of an accounting period. Only direct revenue and direct expenses are considered in it.

Direct expenses are recorded on its debit side and direct revenue on its credit side

All items of direct expenses and direct revenue concerning current year are taken into account but no item relating to past or next year is considered in it. If its credit side exceeds it represents gross profit and if debit side exceeds it shows gross loss.

Purpose of Preparing Trading Account:

The profit or loss determined by a trading account is the gross result of the business but not the net result. If so, then a question arises - what is the use of preparing a trading account? This account is necessary because of the following advantages.

Gross profit of a business is very important data, since all business expenses are met out of it. So the amount of gross profit should be adequate to meet the indirect expenses of a business concern. The amount of net sales can be determined through this account. Gross sales can be ascertained from sales account in the ledger, but net sales cannot be so obtained. The true sales of a business is net sales - not gross sales. Net sales are determined by deducting sales returns from gross sales in trading account.

Profit and loss account:

Definition and Explanation:

The account through which annual net profit or loss of a business is ascertained, is called profit and loss account. Gross profit or loss of a business is ascertained through trading account and net profit is determined by deducting all indirect expenses (business operating expenses) from the gross profit through profit and loss account. Thus profit and loss account starts with the result provided by trading account.

Profit & Loss Account is part of final accounts, prepared by a business firm to know the net profit of the business activities during a particular period. Profit and Loss Account is different from Trading Account because Trading account shows only the gross profit while profit and loss account shows net earnings of the business firm. In profit and loss account all indirect expenses and indirect incomes are shown. After preparing trading account the decision is taken regarding the costing of products but after preparing profit and loss account decision is taken in respect to control the expenditures to maximize the profitability of the firm. In short, both statements are very important for a business firm

Contents of Profit and Loss Account:-

A Profit and Loss Account shows the following details:-

Gross profit or gross loss brought forward from the Trading account.

All indirect incomes

All indirect expenditures Net profit.

How a Profit and Loss Account is prepared? Profit and Loss Account is prepared with the help of Trial Balance. Profit and Loss Account is just like Trading Account which is divided in two parts i.e. Income part and Expenditure Part.

In income part, we show the following accounts:- Gross Profit brought forward.

Indirect Income i.e. interest received, commission received, rent received etc. In other words indirect income means which is not directly related to purchase or sales.

In Expenditure part, we show the following details:- Gross Loss brought forward All indirect Expenses i.e. any expenses which are not related to purchase and sales

Balance Sheet

Definition and Explanation:

Balance sheet is a list of the accounts having debit balance or credit balance in the ledger. On one side it shows the accounts that have a debit balance and on the other side the accounts that have a credit balance. The purpose of a balance sheet is to show a true and fair financial position of a business at a particular date. Every business prepares a balance sheet at the end of the account year. A balance sheet may be defined as:

"It is a statement of assets, liabilities and owner's equity (capital) on a particular date".

"It is a statement of what a business concern owns and what it owes on a particular date". What is owned are called assets and what it owes are called liabilities.

"It is a statement which discloses total assets, total liabilities and total capital (owner's equity) of a concern on a particular date".

Assets means all the things and properties under the ownership of the business i.e. building, plant, furniture, machinery, stock, cash etc. Assets also include anything against which money or service will be received i.e. creditors accrued income, prepaid expenses etc.

Liabilities means our dues to others or anything against which we are to pay money or render service, i.e. creditors, outstanding expenses, amount payable to the owner of the business (capital) etc.

Asset side of the balance sheet indicates the different types of assets owned by a concern, while liabilities side discloses the various sources through which funds have been obtained in order to acquire those assets. Balance sheet reveals the financial position of the firm on a particular date at a point of time, so it is also called "position statement". It is prepared on the last day of the accounting year and discloses concern for the whole year cannot be determined through the balance sheet because financial position is ever changing.

Features of Balance Sheet:

Balance sheet has the following features:

- It is the last stage of final accounts It is prepared on the last day of an accounting year.
- It is not an account under the double entry system - it is a statement only.
- It has two sides - left hand side known as asset side and right hand side known as liabilities side.
- The total of both sides are always equal
- It discloses the financial position and solvency of the business.
- It is prepared after the preparation of trading and profit and loss account because the net profit or net loss of a concern is included in it through capital account.

The balance sheet is basically a historical report showing the cumulative effect of past transactions. It is often described as a detailed expression of the following fundamental accounting equation:

Assets = Liabilities + Owners' Equity (Capital)

Assets are costs which represent expected future economic benefits to the business enterprise. However, the rights to assets have been acquired by the Enterprise as a result of past transactions.

Liabilities also result from past transactions. They represent obligations which require settlement in the future either by conveying assets or by performing services. Implicit in these concepts of the nature of assets and liabilities is the meaning of owners' equity as the residual interest in the assets of the enterprise.

Method of Preparation of Balance Sheet:

All the information necessary for the preparation of balance sheet is available from trial balance and from some other ledger accounts. After transferring accounts relating to expenses and revenues to trading and profit and loss account, the trial balance contains only the accounts of assets, liabilities, and capital. All assets have debit balances and all liabilities and capital have credit balances. The assets are shown on the asset side of the balance sheet and liabilities and capital are shown on the liabilities side of the balance sheet after arranging them properly

Form And Presentation Of A Balance Sheet

Two objectives are dominant in presenting information in a balance sheet. One is clarity and readability; the other is disclosure of significant facts within the framework of the basic assumptions of accounting. Balance sheet classification, terminology and the general form of presentation should be studied with these objectives in mind.

It is proposed to explain the various aspects of the balance sheet with the help of the following typical summarized balance sheet of an imaginary Partnership firm:

Conventions Of Preparing

The Balance Sheet: There are two conventions of preparing the balance sheet, the American and the English. According to the American convention, assets are shown on the left hand side and the liabilities and the owners' equity on the right hand side. Under the English convention just the opposite is followed i.e. Assets are shown on the right hand side and the liabilities and owners' equity are shown on the left hand side. In the illustration 'a', the American convention has been followed.

Forms Of Presenting The Balance Sheet:

There are two forms of presenting the balance sheet – account form and report form. When the assets are listed on the left hand side and liabilities and owners' equity on the right hand side, we get the account form of balance sheet. It is so called because it is similar to an account. An alternative practice is the report form of balance sheet where the assets are listed at the top of the page and the liabilities and owners' equity are listed beneath them. In illustration 'a' we have followed the account form of balance sheet. Now-a-days joint stock companies present balance sheet in the form of a statement in the annual reports.

Listing Of Items

On The Balance Sheet Assets in balance sheet are generally listed in two ways – i) in the order of liquidity or according to time i.e. in the order of the degree of ease with which they can be converted into cash or ii) in the order of permanence or according to purpose i.e., in the order of the desire to keep them in use. Some assets cannot be easily classified. For e.g. Investments can be easily sold but the desire may be to keep them. Investments may therefore be both liquid and semipermanent that is why they are shown as a separate item in the balance sheet. Liabilities can also be grouped in two ways; either in the order of urgency of payment or in the reverse order. The various assets and liabilities grouped in the two orders will appear as follows:

Classification Of Assets

Consumed Current Assets:

Current assets are those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business enterprise or within one year, whichever is longer. By operating cycle we mean the average period of time between the purchase of goods or raw materials and the realisation of cash from the sale of goods or the sale of products produced with the help of raw materials. Current assets generally consist of cash, marketable securities, bills receivables, debtors, inventory and prepaid expenses.

Cash:

Cash consists of funds that are readily available for disbursement. It includes cash kept in the cash chest of the enterprise as also cash deposited on call or current accounts with banks.

Marketable Securities:

These consist of investments that are both readily marketable and are expected to be converted into cash within a year. These investments are made with a view to earn some return on cash that otherwise would be temporarily idle.

Accounts Receivable:

Accounts receivable consist of amounts owed to the enterprise by its consumers. This represents amounts usually arising out of normal commercial transactions. These amounts are listed in the balance sheet at the amount due less a provision for portion that may not be collected. This provision is called as provision for doubtful debts. Amounts due to the enterprise by someone other than a consumer would appear under the heading 'other receivables' rather than 'accounts receivables'. If the amounts due are evidenced by written promises to pay, they are listed as bills receivables. Accounts receivables are expected to be realised in cash.

Inventory:

Inventory consists of i) goods that are held in stock for sale in the ordinary course of business, ii) work-in-progress that are to be currently consumed in the production of goods or services to be available for sale. Inventory is expected to be sold either for cash or on credit to customers to be converted into cash. It may be noted in this connection that inventory relates to goods that will be sold in the ordinary course of business. A van offered for sale by a van dealer is inventory. A van used by the dealer to make service calls is not inventory but an item of equipment which is a fixed asset.

Prepaid Expenses:

These items represent expenses which are usually paid in advance such as rent, taxes, subscriptions and insurance. For e.g. If rent for three months for the building is paid in advance then the business acquires a right to occupy the building for three months. This right to occupy is an asset. Since this right will expire within a fairly short period of time it is a current asset.

Long Term Investments:

The distinction between a marketable security shown under current asset and as an investment is entirely based on time factor. Those investments like investments in shares, debentures, bonds etc. That will be retained for more than one year or one operating cycle will appear under this classification.

FixedAssets:

Tangible assets used in the business that are of a permanent or relatively fixed nature are called plant assets or fixed assets. Fixed assets include furniture, equipment, machinery, building and land. Although there is no standard criterion as to the minimum length of life necessary for classification as fixed assets, they must be capable of repeated use and are ordinarily expected to last more than a year. However the asset need not actually be used continuously or even frequently. Items of spare equipments held for use in the event of breakdown of regular equipment or for use only during peak periods of activity are also included in fixed assets.

With the passage of time, all fixed assets with the exception of land lose their capacity to render services. Accordingly the cost of such assets should be transferred to the related expense amounts in a systematic manner during their expected useful life. This periodic cost expiration is called depreciation. While showing the fixed assets in the balance sheet the accumulated depreciation as on the date of balance sheet, is deducted from the respective assets.

Intangible Assets: While tangible assets are concrete items which have physical existence such as buildings, machinery etc., intangible assets are those which have no physical existence. They cannot be touched and felt. They derive their value from the right conferred upon their owner by possession. Examples are: goodwill, patents, copyrights and trademarks.

Fictitious Assets: These items are not assets. Yet they appear in the asset side simply because of a debit balance in a particular account not yet written off – e.g. Debit balance in current account of partners, profit and loss account, etc.

Classification Of Liabilities**Current Liabilities:**

When the liabilities of a business enterprise are due within an accounting period or the operating cycle of the business, they are classified as current liabilities. Most of the current liabilities are incurred in the acquisition of materials or services forming part of the current assets. These liabilities are expected to be satisfied either by the use of current assets or by the creation of other current liabilities. The one year time interval or current operating cycle criterion applies to classifying current liabilities also. Current liabilities generally consists of bills payable, creditors, outstanding expenses, income received in advance, provision for income-tax etc.

Accounts Payable:

These amounts represent the claims of suppliers related to goods supplied or services rendered by them to the business enterprise for which they have not yet been paid. Usually these claims are unsecured and are not evidenced by any formal written acceptance or promise to pay. When the enterprise gives a written promise to pay money to a creditor for the purchase of goods or services used in the business or the money borrowed, then the written promise is called as bills

payable or notes payable. Amounts due to financial institutions which are suppliers of funds, rather than of goods or services are termed as short-term loans or by some other name that describes the nature of the debt instrument, rather than accounts payable.

Outstanding Expenses:

These are expenses or obligations incurred in the previous accounting period but the payment for which will be made in the next accounting period. A typical example is wages or rent for the last month of the accounting period remaining unpaid. It is usually paid in the first month of the next accounting period and hence it is an outstanding expense.

Income Received In Advance:

These amounts relate to the next accounting period but received in the previous accounting period. This item of liability is frequently found in the balance sheet of enterprises dealing in the publication of newspapers and magazines.

Provision For Taxes:

This is the amount owed by the business enterprise to the government for taxes. It is shown separately from other current liabilities both because of the size and because the amount owed may not be known exactly as on the date of balance sheet. The only thing known is the existence of liability and not the amount.

Long Term Liabilities:

All liabilities which do not become due for payment in one year and which do not require current assets for their payment are classified as long-term liabilities or fixed liabilities. Long term liabilities may be classified as secured loans or unsecured loans. When the long-term loans are obtained against the security of fixed assets owned by the enterprise, they are called as secured or mortgaged loans. When any asset is not attached to these loans they are called as unsecured loans. Usually long-term liabilities include debentures and bonds, borrowings from financial institutions and banks, public debts, etc. Interest accrued on a particular secured long term loan, should be shown under the appropriate sub-heading.

Contingent Liabilities:

Contingent liabilities are those liabilities which may or may not result in liability. They become liabilities only on the happening of a certain event. Until then both the amount and the liability are uncertain. If the event happens there is a liability; otherwise there is no liability at all. A very good example for contingent liability is a legal suit pending against the business enterprise for compensation. If the case is decided against the enterprise the liability arises and in the case of favourable decision there is no liability at all. Contingent liabilities are not taken into account for the purpose of totaling of balance sheet.

Capital Or Owners' Equity:

As mentioned earlier, owners' equity is the residual interest in the assets of the enterprise. Therefore the owners' equity section of the balance sheet shows the amount the owners have invested in the entity. However, the terminology 'owners' equity, varies with different forms of organisations depending upon whether the enterprise is a joint stock company or sole proprietorship / partnership concern.

Types of Adjustments Entries in Final Accounts:

Closing Stock: As the value of closing inventories is ascertained at the end of the accounting year, it appears as an adjustment. It should be credited to Trading a/c and shown in the asset side of the B/S.

Outstanding Expenses: These are the expenses incurred within the accounting year but the payment has not been made. Outstanding or unpaid expenses should be added to the concerned expenses a/c in P&L a/c and will be shown as a current liability in the B/S.

Prepaid Expenses: These are the expenses, which have been paid, but part of the amount paid extends to the next year. It is also called as 'Un-expired expenses'. Advance amount paid should be deducted from the concerned expenses and be shown as a Current Asset in the B/S.

Accrued Income:

It is the income that has already been earned [i.e., the service has already been rendered] but the money has not been received.

Incomes Received in Advance:

These are incomes received during the current year, but part of the amount received relates to the next year. Such amount must be deducted from the total amount received in P&L a/c and shown on the liabilities side of the B/S as it represents an amount, which the business is obliged to return.

Depreciation on Assets: Depreciation means diminution or fall in value of an asset due to its constant use. It may also arise on account of wear and tear, lapse of time and obsolescence. It is a loss to the business.

It is usually calculated at a certain percentage on the value of asset and the amount so obtained is first shown on the debit side of the P&L a/c and then deducted from the original value of asset in the B/S.

Bad Debts:

Debts represent money due from debtors [i.e., uncollected portion of credit sales]. When debts become irrecoverable, it becomes bad debts and is treated as a loss. The amount of bad debts is debited to P&L a/c and is deducted from Sundry Debtors in the B/S.

Provision for Bad and Doubtful Debts: Every business has a lot of dealings by way of credit transactions. This gives rise to a sizable amount of book debts or debtors. But it is seldom that 100 percent of these debts will be recovered.

Hence, it becomes necessary to bring down the debtors balance to its true position. The usual practice is to calculate such doubtful debts at a certain percentage, based on past experience on debtors. It is called as Provision or Reserve for Doubtful Debts. However, the provision for bad and doubtful debts is calculated on good debts i.e., after deducting bad debts not adjusted earlier.

Provision for Discount on Debtors: Cash discounts are allowed to debtors in order to encourage them to make prompt payments. After providing for bad and doubtful debts, the balance of debtors represents debts due from sound parties.

They may try to pay their dues on time and avail themselves of the cash discounts permissible. Hence, this discount should be anticipated and provided for. It is, therefore, the usual practice in business is to provide for discount on debtors at certain percentage on good debts.

Provision for Discount on Creditors: Creditors represent the amount owed by the business to suppliers of goods on credit. Sound business concerns make it a practice to settle accounts with creditors in time to earn goodwill of the creditors and also the discount allowed by them.

In that case the liability in respect of sundry creditors can be reduced to the extent of discounts anticipated. Based on the past practice, a certain percentage on creditors balance is calculated as Provision for discounts and deducted from the creditors balance in the B/S and the same amount is credited as gain in the P&L a/c.

Interest on Capital: Often, interest at a normal rate is allowed on the capital of the proprietor employed in the business. This is necessary in order to assess the efficiency of the business. Otherwise the profits would include the interest and appear at a higher rate.

The interest so charged is a loss to the business and gain to the proprietor. So it is debited to the Profit and Loss a/c and added to the capital in the Balance Sheet.

Interest on Drawings:

Drawings are money withdrawn by the proprietor from his capital. Just as the business allows interest on capital, it charges interest on drawings. It is a gain to the business and a loss to the proprietor. So, it is credited to the Profit and Loss a/c and deducted from the capital in the Balance Sheet.

UNIT – 3

Financial Statement Analysis

CONTENTS: Financial Statements Analysis - Ratio Analysis –Rationale and utility of ratio analysis – classification of ratios – calculation and interpretation of ratios – liquidity ratios- activity/ turn over ratios – profitability ratios – leverage and structural ratios(Including Numerical Problems) – Diagnostic and predictive power of ratio ; Common Size Statement analysis.

Introduction

Financial statements by themselves do not give the required information both for internal management and for outsiders. They are passive statements showing the results of the business i.e. Profit or loss and the financial position of the business. They will not disclose any reasons for dismal performance of the business if it is so. What is wrong with the business, where it went wrong, why it went wrong, etc. Are some of the questions for which no answers will be available in the financial statements. Similarly, no information will be available in the financial statements about the financial strengths and weaknesses of the concern. Hence, to get meaningful information from the financial statements which would facilitate vital decisions to be taken, financial statements must be analysed and interpreted.

Through the analysis and interpretation of financial statements full diagnosis of the profitability and financial soundness of the business is made possible. The term `analysis of financial statements‘ means methodical classification of the data given in the financial statements. The term `interpretation of financial statements‘ means explaining the meaning and significance of the data so classified. A number of tools are available for the purpose of analysing and interpreting the financial statements. This lesson discusses in brief tools like common size statement, trend analysis, etc., and gives a detailed discussion on ratio analysis.

Nature Of Financial Analysis

The focus of financial analysis is on the key figures contained in the financial statements and the significant relationship that exists between them. —analyzing financial statements is a process of evaluating the relationship between the component parts of the financial statements to obtain a better understanding of a firm’s position and performance. The type of relationship to be investigated depends upon the objective and purpose of evaluation. The purpose of evaluation of financial statements differs among various groups: creditors, shareholders, potential investors, management and so on. For example, short-term creditors are primarily interested in judging the firm’s ability to pay its currently-maturing obligations. The relevant information for them is the composition of the short-term (current) liabilities. The debenture-holders or financial institutions granting long-term loans would be concerned with examining the capital structures, past and projected earnings and changes in the

financial position. The shareholders as well as potential investors would naturally be interested in the earnings per share and dividends per share as these factors are likely to have a significant bearing on the market price of shares. The management of the firms, in contrast, analyses the financial statements for self-evaluation and decision making.

The first task of the financial analyst is to select the information relevant to the decision under consideration from the total information contained in the financial statements. The second step involved in financial analysis is to arrange the information in such a way as to highlight significant relationships. The final step is the interpretation and drawing of inferences and conclusions. In brief, financial analysis is the process of selection, relation and evaluation.

Types Of Financial Analysis

Financial analysis may be classified on the basis of parties who are undertaking the analysis and on the basis of methodology of analysis.

On the basis of the parties who are doing the analysis, financial analysis is classified into external analysis and internal analysis.

External Analysis:

When the parties external to the business like creditors, investors, etc. Do the analysis, the analysis is known as external analysis. This analysis is done by them to know the creditworthiness of the concern, its financial viability, its profitability, etc.

Internal Analysis:

This analysis is done by persons who have control over the books of accounts and other information of the concern. Normally this analysis is done by management people to enable them to get relevant information to take vital business decision. On the basis of methodology adopted for analysis, financial analysis may be either horizontal analysis or vertical analysis.

Horizontal Analysis:

When financial statements of a number of years are analysed, then the analysis is known as horizontal analysis. In this type of analysis, figures of the current year are compared with the standard or base year. This type of analysis will give an insight into the concern's performance over a period of years. This analysis is otherwise called as dynamic analysis as it extends over a number of years.

Vertical Analysis:

This type of analysis establishes a quantitative relationship of the various items in the financial statements on a particular date. For e.g. The ratios of various expenditure items in

terms of sales for a particular year can be calculated. The other name for this analysis is 'static analysis' as it relies upon one year figures only.

Tools Of Financial Analysis

The following are the important tools of financial analysis which can be appropriately used by the financial analysts:

1. Common-size financial statements
2. Comparative financial statements
3. Trend percentages
4. Ratio analysis
5. Funds flow analysis
6. Cash flow analysis

Common-Size Financial Statements: In this type of statements, figures in the original financial statements are converted into percentages in relation to a common base. The common base may be sales in the case of income statements (profit and loss account) and total of assets or liabilities in the case of balance sheet. For e.g. In the case of common-size income statement, sales of the traditional financial statement are taken as 100 and every other item in the income statement is converted into percentages with reference to sales. Similarly, in the case of common-size balance sheet, the total of asset/liability side will be taken as 100 and each individual asset/liability is converted into relevant percentages.

Comparative financial statements

This type of financial statements are ideal for carrying out horizontal analysis. Comparative financial statements are so designed to give them perspective to the review and analysis of the various elements of profitability and financial position displayed in such statements. In these statements, figures for two or more periods are compared to find out the changes both in absolute figures and in percentages that have taken place in the latest year as compared to the previous year(s). Comparative financial statements can be prepared both for income statement and balance sheet.

Trend analysis:

Is a useful tool for the management since it reduces the large amount of absolute data into a simple and easily readable form. The trend analysis is studied by various methods. The most popular forms of trend analysis are year to year trend change percentage and indexnumber

trend series. The year to year trend change percentage would be meaningful and manageable where the trend for a few years, say a five year or six year period is to be analysed.

Generally trend percentage are calculated only for some important items which can be logically related with each other. For e.g. Trend ratio for sales, though shows a clear-cut increasing tendency, becomes meaningful in the real sense when it is compared with cost of goods sold which might have increased at a lower level.

Ratio Analysis:

Of all the tools of financial analysis available with a financial analyst the most important and the most widely used tool is ratio analysis. Simply stated ratio analysis is an analysis of financial statements done with the help of ratios. A ratio expresses the relationship that exists between two numbers and in financial statement analysis a ratio shows the relationship between two interrelated accounting figures. Both the accounting figures may be taken from the balance sheet and the resulting ratio is called a balance sheet ratio. But if both the figures are taken from profit and loss account then the resulting ratio is called as profit and loss account ratio. Composite ratio is that ratio which is calculated by taking one figure from profit and loss account and the other figure from balance sheet. A detailed discussion on ratio analysis is made available in the pages to come.

Funds Flow Analysis:

The purpose of this analysis is to go beyond and behind the information contained in the financial statements. Income statement tells the quantum of profit earned or loss suffered for a particular accounting year. Balance sheet gives the assets and liabilities position as on a particular date. But in an accounting year a number of financial transactions take place which have a bearing on the performance of the concern but which are not revealed by the financial statements. For e.g. A concern collects finance through various sources and uses them for various purposes. But these details could not be known from the traditional financial statements. Funds flow analysis gives an opening in this respect. All the more, funds flow analysis reveals the changes in working capital position. If there is an increase in working capital what resulted in the increase and if there is a decrease in working capital what caused the decrease, etc. Will be made available through funds flow analysis.

Cash Flow Analysis:

While funds flow analysis studies the reasons for the changes in working capital by analysing the sources and application of funds, cash flow analysis pays attention to the changes in cash position that has taken place between two accounting periods. These reasons are not available in the traditional financial statements. Changes in the cash position can be analysed with the help of a statement known as cash flow statement. A cash flow statement summarises the change in cash position of the concern. Transactions which increase the cash position of the

concern are labelled as 'inflows' of cash and those which decrease the cash position as 'outflows' of cash.

Meaning And Nature of Ratio Analysis

Ratio expresses numerical relationship between two numbers. In the words of Kennedy and Mcmullen, —the relationship of one item to another expressed in simple mathematical form is known as a ratio. Thus, the ratio is a measuring device to judge the growth, development and present condition of a concern. It plays an important role in measuring the comparative significance of the income and position statement. Accounting ratios are expressed in the form of time, proportion, percentage, or per one rupee. Ratio analysis is not only a technique to point out relationship between two figures but also points out the devices to measure the fundamental strengths or weaknesses of a concern. As James C. Van Horne observes: —to evaluate the financial condition and performance of a firm, the financial analyst needs certain yardsticks. One of the yardsticks frequently used is a ratio. The main purpose of ratio analysis is to measure past performance and project future trends. It is also used for interfirm and intra-firm comparison as a measure of comparative productivity. The significance of the various components of financial statements can be judged only by ratio analysis. The financial analyst x-rays the financial conditions of a concern by the use of various ratios and if the conditions are not found to be favourable, suitable steps can be taken to overcome the limitations. The main objectives of ratio analysis are:

- To simplify the comparative picture of financial statements.
- To assist the management in decision making.
- To gauge the profitability, solvency and efficiency of an enterprise, and
- To ascertain the rate and direction of change and future potentiality.

Classification of Ratios

Financial ratios can be broadly classified into liquidity ratios, solvency ratios, profitability ratios and efficiency ratios (also called activity ratios or asset utilization ratios). Other categories include cash flow ratios, market valuation ratios, coverage ratios, etc.

1. Liquidity Ratios

Liquidity ratios assess a business's liquidity, i.e. its ability to convert its assets to cash and pay off its obligations without any significant difficulty (i.e. delay or loss of value). Liquidity ratios are particularly useful for suppliers, employees, banks, etc.

Important liquidity ratios are:

- Current ratio
- Quick ratio (also called acid-test ratio)

- Cash ratio
- Cash conversion cycle

Current ratio

Current ratio is one of the most fundamental liquidity ratio. It measures the ability of a business to repay current liabilities with current assets.

Current assets are assets that are expected to be converted to cash within normal operating cycle, or one year. Examples of current assets include cash and cash equivalents, marketable securities, short-term investments, accounts receivable, short-term portion of notes receivable, inventories and short-term prepayments.

Current liabilities are obligations that require settlement within normal operating cycle or next 12 months. Examples of current liabilities include accounts payable, salaries and wages payable, current tax payable, sales tax payable, accrued expenses, etc. Formula

Current ratio is calculated using the following formula:

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

Quick ratio

Quick ratio (also known as asset test ratio) is a liquidity ratio which measures the dollars of liquid current assets available per dollar of current liabilities. Liquid current assets are current assets which can be quickly converted to cash without any significant decrease in their value. Liquid current assets typically include cash, marketable securities and receivables. Quick ratio is expressed as a number instead of a percentage. Formula Quick ratio is calculated by dividing liquid current assets by total current liabilities. Liquid current assets include cash, marketable securities and receivables.

The following is the most common formula used to calculate quick ratio:

$$\text{Quick Ratio} = \text{Cash} + \text{Marketable Securities} + \text{Receivables} / \text{Current Liabilities}$$

Cash includes cash in hand and cash at bank.

Marketable securities are those securities/investments which can be easily converted to cash, i.e. within a short period of time at a negligible, if any, decrease in its value. Examples include government treasury bills, shares listed on a stock exchange, etc.

Receivables include accounts receivable, notes receivable, etc.

Cash ratio

Cash ratio is the ratio of cash and cash equivalents of a company to its current liabilities. It is an extreme liquidity ratio since only cash and cash equivalents are compared with the current liabilities. It measures the ability of a business to repay its current liabilities by only using its cash and cash equivalents and nothing else.

Formula

$$\text{Cash Ratio} = \text{Cash} + \text{Cash Equivalents} / \text{Current Liabilities}$$

Cash equivalents are assets which can be converted into cash quickly whereas current liabilities are those liabilities which are to be settled within 12 months or the business cycle.

2. Solvency Ratios

Solvency ratios assess the long-term financial viability of a business i.e. its ability to pay off its long-term obligations such as bank loans, bonds payable, etc. Information about solvency is critical for banks, employees, owners, bond holders, institutional investors, government, etc. Key solvency ratios are:

- Debt ratio
- Debt to equity ratio
- Debt to capital ratio
- Times interest earned ratio
- Fixed charge coverage ratio
- Equity multiplier

Debt ratio

Debt ratio (also known as debt to assets ratio) is a ratio which measures debt level of a business as a percentage of its total assets. It is calculated by dividing total debt of a business by its total assets.

Debt ratio finds out the percentage of total assets that are financed by debt and helps in assessing whether it is sustainable or not. If the percentage is too high, it might indicate that it is too difficult for the business to pay off its debts and continue operations.

Formula

Debt ratio is calculated using the following formula:

$$\text{Debt Ratio} = \text{Total Debt} / \text{Total Assets}$$

Debt-to-Equity Ratio

Debt-to-Equity ratio is the ratio of total liabilities of a business to its shareholders' equity. It is a leverage ratio and it measures the degree to which the assets of the business are financed by

the debts and the shareholders' equity of a business.

Formula

Debt-to-equity ratio is calculated using the following formula:

$$\text{Debt-to-Equity Ratio} = \text{Total Liabilities} / \text{Shareholders' Equity}$$

Lower values of debt-to-equity ratio are favorable indicating less risk. Higher debt-to-equity ratio is unfavorable because it means that the business relies more on external lenders thus it is at higher risk, especially at higher interest rates. A debt-to-equity ratio of 1.00 means that half of the assets of a business are financed by debts and half by shareholders' equity. A value higher than 1.00 means that more assets are financed by debt than those financed by money of shareholders' and vice versa.

An increasing trend in of debt-to-equity ratio is also alarming because it means that the percentage of assets of a business which are financed by the debts is increasing.

Debt-to-Capital Ratio

Debt-to-capital ratio is a solvency ratio that measures the proportion of interest-bearing debt to the sum of interest-bearing debt and shareholders' equity. Interest-bearing debt includes bonds payable, bank loans, notes payable, etc. Non-interestbearing debt includes trade payable, accrued expenses, etc.

The debt-to-capital ratio is a refinement of the debt-to-assets ratio. It measures how much of the capital employed (i.e. the resources on which the company pays a cost) is debt. Higher debt included in the capital employed means higher risk of insolvency.

Formula

$$\text{Debt-to-Capital Ratio} = \text{Interest-bearing Debt} / (\text{Interest-bearing Debt} + \text{Shareholders' Equity})$$

Fixed charge coverage

Fixed charge coverage is a solvency ratio that measures whether earnings before interest, taxes and lease payments are sufficient to cover the interest and lease payments. It is calculated by dividing the sum of earnings before interest and taxes and lease payments by the sum of interest payments and lease payments.

Fixed charge coverage ratio is very similar to interest coverage ratio. The only difference is that fixed charge coverage ratio takes into account the annual obligations on account of lease payments too (in addition to interest payments).

The higher the ratio, the better is the solvency situation of the company. The ratio is best used together with other solvency ratios such debt ratio, financial leverage ratio, etc.

Formula

Fixed Charge Coverage = $\frac{\text{EBIT} + \text{Lease Payments other than Interest Portion}}{\text{Interest Payments} + \text{Lease Payments}}$

Profitability Ratios

Profitability ratios measure the ability of a business to earn profit for its owners. While liquidity ratios and solvency ratios explain the financial position of a business, profitability ratios and efficiency ratios communicate the financial performance of a business. Important profitability ratios include:

- net profit margin
- gross profit margin
- operating profit margin
- return on assets
- return on capital employed
- return on equity
- earnings per share

Other ratios related to profitability that are used by investors to assess the stock market performance of a business include:

- price to earnings (P/E) ratio
- price to book (P/B) ratio
- Dividend payout ratio
- Dividend yield ratio
- Retention ratio

Net profit margin

Net profit margin (also called profit margin) is the most basic profitability ratio that measures the percentage of net income of an entity to its net sales. It represents the proportion of sales that is left over after all relevant expenses have been adjusted.

Net profit margin is used to compare profitability of competitors in the same industry. It can also be used to determine the profitability potential of different industries. While companies in some industries are able to generate high net profit margin, other industries offer very narrow margins. It depends on the extent of competition, elasticity of demand, production differentiation, etc. of the relevant product or market.

Return on equity and return on assets are other relevant ratios that measure the relationship of net income with shareholders' equity and total assets respectively.

Formula

Net Profit Margin = $\frac{\text{Net Income}}{\text{Net Sales}}$

Net Sales = Gross Sales – Sales Tax – Discounts – Sales Returns

Gross profit margin

Gross margin ratio is the ratio of gross profit of a business to its revenue. It is a profitability ratio measuring what proportion of revenue is converted into gross profit (i.e. revenue less cost of goods sold).

Formula

Gross margin is calculated as follows:

Gross profit Ratio = Gross Profit / Net sales

Activity Ratios

Activity ratios assess the efficiency of operations of a business. For example, these ratios attempt to find out how effectively the business is converting inventories into sales and sales into cash, or how it is utilizing its fixed assets and working capital, etc. Key activity ratios are:

- inventory turnover ratio
- days sales in inventory
- receivables turnover ratio
- days sales outstanding
- payables turnover ratio
- days payable outstanding
- fixed asset turnover ratio
- working capital turnover ratio

Advantages of Ratio Analysis:

Ratio analysis is widely used as a powerful tool of financial statement analysis. It establishes the numerical or quantitative relationship between two figures of a financial statement to ascertain strengths and weaknesses of a firm as well as its current financial position and historical performance. It helps various interested parties to make an evaluation of certain aspect of a firm's performance.

The following are the principal advantages of ratio analysis:

1. Forecasting and Planning:

The trend in costs, sales, profits and other facts can be known by computing ratios of relevant accounting figures of last few years. This trend analysis with the help of ratios may be useful for forecasting and planning future business activities.

2. Budgeting:

Budget is an estimate of future activities on the basis of past experience. Accounting ratios help to estimate budgeted figures. For example, sales budget may be prepared with the help of analysis of past sales.

3.Measurement of Operating Efficiency:

Ratio analysis indicates the degree of efficiency in the management and utilisation of its assets. Different activity ratios indicate the operational efficiency. In fact, solvency of a firm depends upon the sales revenues generated by utilizing its assets.

4. Communication:

Ratios are effective means of communication and play a vital role in informing the position of and progress made by the business concern to the owners or other parties.

5. Control of Performance and Cost:

Ratios may also be used for control of performances of the different divisions or departments of an undertaking as well as control of costs.

6. Inter-firm Comparison:

Comparison of performance of two or more firms reveals efficient and inefficient firms, thereby enabling the inefficient firms to adopt suitable measures for improving their efficiency. The best way of inter-firm comparison is to compare the relevant ratios of the organisation with the average ratios of the industry.

7. Indication of Liquidity Position:

Ratio analysis helps to assess the liquidity position i.e., short-term debt paying ability of a firm. Liquidity ratios indicate the ability of the firm to pay and help in credit analysis by banks, creditors and other suppliers of short-term loans.

8. Indication of Long-term Solvency Position:

Ratio analysis is also used to assess the long-term debt-paying capacity of a firm. Long-term solvency position of a borrower is a prime concern to the long-term creditors, security analysts and the present and potential owners of a business. It is measured by the leverage/capital structure and profitability ratios which indicate the earning power and operating efficiency. Ratio analysis shows the strength and weakness of a firm in this respect.

9. Indication of Overall Profitability:

The management is always concerned with the overall profitability of the firm. They want to know whether the firm has the ability to meet its short-term as well as long-term obligations to its creditors, to ensure a reasonable return to its owners and secure optimum utilisation of the assets of the firm. This is possible if all the ratios are considered together.

10. Signal of Corporate Sickness:

A company is sick when it fails to generate profit on a continuous basis and suffers a severe liquidity crisis. Proper ratio analysis can give signal of corporate sickness in advance so that timely measures can be taken to prevent the occurrence of such sickness.

11. Aid to Decision-making:

Ratio analysis helps to take decisions like whether to supply goods on credit to a firm, whether bank loans will be made available etc.

12. Simplification of Financial Statements:

Ratio analysis makes it easy to grasp the relationship between various items and helps in understanding the financial statements.

Limitations of Ratio Analysis:

The technique of ratio analysis is a very useful device for making a study of the financial health of a firm. But it has some limitations which must not be lost sight of before undertaking such analysis.

Some of these limitations are:

1. Limitations of Financial Statements:

Ratios are calculated from the information recorded in the financial statements. But financial statements suffer from a number of limitations and may, therefore, affect the quality of ratio analysis.

2. Historical Information:

Financial statements provide historical information. They do not reflect current conditions. Hence, it is not useful in predicting the future.

3. Different Accounting Policies:

Different accounting policies regarding valuation of inventories, charging depreciation etc. make the accounting data and accounting ratios of two firms non-comparable.

4. Lack of Standard of Comparison:

No fixed standards can be laid down for ideal ratios. For example, current ratio is said to be ideal if current assets are twice the current liabilities. But this conclusion may not be justifiable in case of those concerns which have adequate arrangements with their bankers for providing funds when they require, it may be perfectly ideal if current assets are equal to or slightly more than current liabilities.

5. Quantitative Analysis:

Ratios are tools of quantitative analysis only and qualitative factors are ignored while computing the ratios. For example, a high current ratio may not necessarily mean sound liquid position when current assets include a large inventory consisting of mostly obsolete items.

6. Window-Dressing:

The term 'window-dressing' means presenting the financial statements in such a way to show a

better position than what it actually is. If, for instance, low rate of depreciation is charged, an item of revenue expense is treated as capital expenditure etc. the position of the concern may be made to appear in the balance sheet much better than what it is. Ratios computed from such balance sheet cannot be used for scanning the financial position of the business.

7. Changes in Price Level:

Fixed assets show the position statement at cost only. Hence, it does not reflect the changes in price level. Thus, it makes comparison difficult.

8. Causal Relationship Must:

Proper care should be taken to study only such figures as have a cause-and-effect relationship; otherwise ratios will only be misleading.

9. Ratios Account for one Variable:

Since ratios account for only one variable, they cannot always give correct picture since several other variables such Government policy, economic conditions, availability of resources etc. should be kept in mind while interpreting ratios.

10. Seasonal Factors Affect Financial Data:

Proper care must be taken when interpreting accounting ratios calculated for seasonal business. For example, an umbrella company maintains high inventory during rainy season and for the rest of year its inventory level becomes 25% of the seasonal inventory level. Hence, liquidity ratios and inventory turnover ratio will give biased picture.

Common size Statement analysis:

Common size statement analysis, also referred as vertical analysis, is a tool that financial managers use to analyze financial statements. It evaluates financial statements by expressing each line item as a percentage of the base amount for that period. The analysis helps to understand the impact of each item in the financial statement and its contribution to the resulting figure.

The technique can be used to analyze the three primary financial statements, i.e., balance sheet, income statement, and cash flow statement. In the balance sheet, the common base item to which other line items are expressed is total assets, while in the income statement, it is total revenues.

UNIT IV

Cash Flow Statement

Content : Cash Flow Statement – Advantages and Utility of Cash flow statement – Preparation of Cash flow statement (Including Numerical problems) - Tax planning – Tax Avoidance – Tax evasion; Cost concepts – Classification of Costs- – preparation of cost sheet (no numericals)

Meaning of Cash Flow Statements:

Cash Flow Statement is a statement which describes the inflows (sources) and outflows (uses) of cash and cash equivalents in an enterprise during a specified period of time. Such a statement enumerates net effects of various business transactions on cash and its equivalents and takes into account receipts and disbursements of cash.

A cash flow statement summarizes the causes of changes in cash position of a business enterprise between dates of two balance sheets. According to AS-3 (Revised), an enterprise should prepare a cash flow Statement and should present it for each period for which financial statements are prepared.

The terms cash, cash equivalents and cash flows are used in this statement with the following meanings:

1. Cash comprises cash on hand and demand deposits with banks.
2. Cash equivalents are short term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value. Cash equivalents are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes.

For an investment to qualify as a cash equivalent, it must be readily convertible to a known amount of cash and be subject to an insignificant risk of change in value. Therefore, an investment normally qualifies as a cash equivalent only when it has a short-maturity, of say, three months or less from the date of acquisition. Investments in shares are excluded from cash equivalents unless they are, in substance, cash equivalents: for example, preference shares of a company acquired shortly before their specified redemption date (provided there is only an insignificant risk of failure of the company to repay the amount at maturity).

3. Cash flows are inflows and outflows of cash and cash equivalents. Flow of cash is said to have taken place when any transaction makes changes in the amount of cash and cash equivalents available before happening of the transaction. If the effect of transaction results in the increase of cash and its equivalents, it is called an inflow (source) and if it results in the decrease of total cash, it is known as outflow (use) of cash.

Cash flows exclude movements between items that constitute cash or cash equivalents because these components are part of the cash management of an enterprise rather than part of its operating, investing and financing activities. Cash management includes the investment of excess cash in cash equivalents.

Classification of Cash Flows:

According to AS-3 (Revised), the cash flow statement should report cash flows during the period classified by operating, investing and financing activities.

Thus, cash flows are classified into three main categories:

1. Cash flows from operating activities.
2. Cash flows from investing activities.
3. Cash flows from financing activities.

1. Cash Flows from Operating Activities:

Operating activities are the principal revenue-producing activities of the enterprise and other activities that are not investing or financing activities. The amount of cash flows arising from operating activities is a key indicator of the extent to which the operations of the enterprise have generated sufficient cash flows to maintain the operating capability of the enterprise, pay dividends, repay loans, and make new investments without recourse to external sources of financing. Information about the specific components of historical operating cash flows is useful, in conjunction with other information, in forecasting future operating cash flows.

Cash flows from operating activities are primarily derived from the principal revenue-producing activities of the enterprise. Therefore, they generally result from the transactions and other events that enter into the determination of net profit or loss.

2. Cash Flows from Investing Activities:

Investing activities are the acquisition and disposal of long-term assets and other investments not included in cash equivalents. The separate disclosure of cash flows arising from investing activities is important because the cash flows represent the extent to which expenditures have been made for resources intended to generate future income and cash flows.

3. Cash Flows from Financing Activities:

Financing activities are activities that result in changes in the size and composition of the owners' capital (including preference share capital in the case of a company) and borrowings of the enterprise. The separate disclosure of cash flows arising from financing activities is important because it is useful in predicting claims on future cash flows by providers of funds (both capital and borrowings) to the enterprise.

Limitations of Cash Flow Statement:

Despite a number of uses, cash flow statements suffer from the following limitations:

- (i) As cash flow statement is based on cash basis of accounting, it ignores the basic accounting concept of accrual basis.
- (ii) Some people feel that as working capital is a wider concept of funds, a funds flow statement provides a more complete picture than cash flow statement.
- (iii) Cash flow statement is not suitable for judging the profitability of a firm as non-cash charges are ignored while calculating cash flows from operating activities.

A cash flow statement is not a substitute of an income statement it is complementary to an income statement. Net cash flow does not mean the net income of a firm.

(v) A cash flow statement is also not a substitute of funds flow statement which provides information relating to the causes that lead to increase or decrease in working capital.

(vi) A comparative study of cash flow statements may give misleading results.

Format of Cash Flow Statement:

A widely used format of cash flow statement (Direct Method) is given below

Cash Flow Statement (for the year ended)		
	₹	₹
Cash Flows From Operating Activities		
Either		
Cash receipts from customers	xxx	
Cash paid to suppliers and employees	(xxx)	
Cash generated from operations	xxx	
Income-tax paid	(xxx)	
Cash flow before extraordinary items	xxx	
Extraordinary items	xxx	
Net cash from (used in) Operating activities		xxx
Or		
Net profit before tax and extraordinary items	xxx	
Adjustments for non-cash and non-operating items (List of individual items such as depreciation, foreign exchange loss, loss on sale of fixed assets, interest income, dividend income, interest expense etc.)	xxx	
Operating profit before working capital changes	xxx	
Adjustments for changes in current assets and current liabilities (List of individual items)	xxx	
Cash generated from (used in) operations before tax	xxx	
Income tax paid	xxx	
Cash flow before extraordinary items	xxx	
Extraordinary items (such as refund of tax)	xxx	
Net cash from (used in) operating activities		xxx
Cash Flows From Investing Activities		
Individual Items of cash inflows and outflows from financing activities (such as purchase/sale of fixed assets, purchase or sale of investments, interest received, dividend received etc.)	xxx	
Net Cash from (used in) investing activities		xxx
Cash Flows From Financing Activities		
Individual items of cash inflows and outflows from financing activities (such as) proceeds from issue of shares, long-term borrowings, repayments of long- term borrowings, interest paid, dividend paid etc.)	xxx	
Net cash from (used in) financing activities	xxx	xxx
Net Increase (Decrease) in cash and cash equivalents		xxx
Cash and cash equivalents at the beginning of the period		xxx
Cash and cash equivalents at the end of the period		xxx

Format of Cash Flow Statement (Indirect Method) :

Cash Flow Statement (for the year ended)	
XYZ Ltd.	₹

Format of Cash Flows from Operating Activities – Indirect Method

Particulars	Amount
Net Profit before Tax and Extra-ordinary items	xxx
Adjustments for	
– Depreciation	xxx
– Foreign Exchange	xxx
– Investments	xxx
– Gain or Loss on Sale of Fixed Assets	xxx
– Interest Dividend	xxx
Operating Profit before Working Capital Changes	xxx
Adjustments for	
– Trade and Other Receivables	xxx
– Inventories	xxx
– Trade Payable	xxx
Cash generated from Operations	xxx
– Interest Paid	(xxx)
– Direct Taxes	(xxx)
Cash before Extra-Ordinary Items	xxx
Deferred Revenue	xxx
Net Cash Flow from Operating Activities (Indirect Method)	xxx

Cash Flow from Investing Activities

The activities of Acquisition and Disposal of Long Term Assets and other Investments not included in cash equivalents are Investing activities. Separate disclosure of Cash Flows arising from Investing Activities is important because the Cash Flows represent the extent to which expenditures have been made for resources intended to generate future income and cash flows.

Format of Cash Flow from Investing Activities:-

Particulars	Amount
Purchase of Fixed Assets	(xxx)

(Add) Proceeds from Sale of Fixed Assets	xxx
(Add) Interest received	xxx
(Add) Dividend received	<u>xxx</u>
Net Cash Flow from Investing Activities	xxx

III. Cash Flows from Financing Activities

Financing Activities are those activities which result in a change in the size and composition of owner's capital and borrowing of the organisation. The separate disclosure of cash flows arising from financing activities is important because it is useful in predicting the claims on future cash flows by the providers of funds.

Format of Cash Flow from Financing Activities:-

Particulars	Amount
Proceeds from Issue of Share Capital	xxx
Proceeds from Long Term Borrowings	xxx
Repayment of Long Term Borrowings	(xxx)
Interest Paid	(xxx)
Dividend Paid	<u>(xxx)</u>
Net Cash Flows from Financing Activities	xxx

The Comprehensive Format of the complete Cash Flow Statement is as follows:-

Particulars	Amount
<i>Cash flow from Operating Activities (Direct Method/ Indirect Method)</i>	xxx
<i>(Add) Cash Flow from Investing Activities</i>	xxx
<i>(Add) Cash Flow from Financing Activities</i>	xxx

(=)Net Increase/Decrease in Cash	xxx
(Add) Opening Balance of Cash & Cash Equivalents	xxx
(=) Closing Balance of Cash & Cash Equivalents	xxx

Tax Planning , Tax Avoidance and Tax Evasion

The main goal of every taxpayer is to minimize his Tax Liability. To achieve this objective taxpayer may resort to following Three Methods :

- Tax Planning
- Tax Avoidance
- Tax Evasion

It is well said that “Taxpayer is not expected to arrange his affairs in a such manner to pay maximum tax “. So, the assessee shall arrange the affairs in a manner to reduce tax. But the question what method he opts for ? Tax Planning, Tax Avoidance, Tax Evasion ! Let us see its meaning and their difference.

MEANINNG OF TAX PLANNING

Tax Planning involves planning in order to avail all exemptions, deductions and rebates provided in Act. The Income Tax law itself provides for various methods for Tax Planning, Generally it is provided under exemptions u/s 10, deductions u/s 80C to 80U and rebates and relief's. Some of the provisions are enumerated below :

- Investment in securities provided u/s 10(15) . Interest on such securities is fully exempt from tax.
- Exemptions u/s 10A, 10B, and 10BA
- Residential Status of the person
- Choice of accounting system
- Choice of organization.

For availing benefits, one should resort to bonafide means by complying with the provisions of law in letter and in spirit.

Where a person buys a machinery instead of hiring it, he is availing the benefit of depreciation. If is his exclusive right either to buy or lease it . In the same manner to choice the form of organization, capital structure, buy or make products are the assessee's exclusive right. One may look for various tax incentives in the above said transactions provided in this Act, for reduction of tax liability. All this transaction involves tax planning.

Why Every Person Needs Tax Planning ?

Tax Planning is resorted to maximize the cash inflow and minimize the cash outflow. Since Tax is kind of cost, the reduction of cost shall increase the profitability. Every prudent person, to maximize the Return, shall increase the profits by resorting to a tool known as a Tax Planning.

How is Tool of Tax Planning Exercised ?

Tax Planning should be done by keeping in mind the following factors :

- The Planning should be done before the accrual of income. Any planning done after the accrual of income is known as Application of Income and it may lead to a conclusion of that there is a fraud.
- Tax Planning should be resorted to at the source of income.
- The Choice of an organization, i.e. Taxable Entity. Business may be done through a Proprietorship concern or Firm or through a Company.
- The choice of location of business, undertaking, or division also plays a very important role.
- Residential Status of a person. Therefore, a person should arrange his stay in India such a way that he is treated as NR in India.
- Choice to Buy or Lease the Assets. Where the assets are bought, depreciation is allowed and when asset is leased, lease rental is allowed as deduction.
- Capital Structure decision also plays a major role. Mixture of debt and equity fund should be balanced, to maximize the return on capital and minimize the tax liability. Interest on debt is allowed as deduction whereas dividend on equity fund is not allowed as deduction.

Methods Of Tax Planning

Various methods of Tax Planning may be classified as follows :

1. Short Term Tax Planning : Short range Tax Planning means the planning thought of and executed at the end of the income year to reduce taxable income in a legal way. Example : Suppose, at the end of the income year, an assessee finds his taxes have been too high in comparison with last year and he intends to reduce it. Now, he may do that, to a great extent by making proper arrangements to get the maximum tax rebate u/s 88. Such plan does not involve any long term commitment, yet it results in substantial savings in tax.

2. Long Term Tax Planning : Long range tax planning means a plan chalked out at the beginning of the income year to be followed around the year. This type of planning does not help immediately as in the case of short range planning but is likely to help in the long run ;

e.g. If an assessee transferred shares held by him to his minor son or spouse, though the income from such transferred shares will be clubbed with his income u/s 64, yet is the income is

invested by the son or spouse, then the income from such investment will be treated as income of the son or spouse. Moreover, if the company issues any bonus shares for the shares transferred, that will also be treated as income in the hands of the son or spouse.

3. Permissive Tax Planning : Permissive Tax Planning means making plans which are permissible under different provisions of the law, such as planning of earning income covered by Sec.10, specially by Sec. 10(1), Planning of taking advantage of different incentives and deductions, planning for availing different tax concessions etc.

4. Purposive Tax Planning : It means making plans with specific purpose to ensure the availability of maximum benefits to the assessee through correct selection of investment, making suitable programme for replacement of assets, varying the residential status and diversifying business activities and income etc.

Tax Avoidance

It is an act of dodging tax without breaking the Law. It means when a taxpayer arranges his financial activities in such a manner that although it is within the four corners of tax law but takes advantages of loopholes which exist in the Tax Law for reduction of tax liability. In other words though he has complied the letter of law but not the spirit behind the law.

Following transactions are held as Tax Avoidance which are :

1. Where tax law is complied with by using colorable devices which means that use of a dubious method or a method which is unfair for reduction of tax liability.
2. Where the facts of the case are presented in a false manner.
3. Where the spirit behind the law is avoided.
4. There is a malafide intention.

It means that method adopted for reducing tax liability should be within the framework of law. If it is not within the framework of law, it amounts to tax avoidance and not Tax planning.

Tax Evasion

Any illegal method which leads to reduction of tax liability is known as Tax Evasion. The Tax Evasion is resorted to by applying following dishonest means :

1. Concealing the Income
2. Claiming excessive expenditure
3. Falsification of accounts.
4. Willful violence of Rules

E.g. Claiming depreciation where no asset exist in the Business or claiming depreciation on the assets which is used for residential purposes. It Is basically a fraudulent method of reduction in tax liability

The Difference Between ‘Tax Planning’ And ‘Tax Management’

THE DIFFERENCE BETWEEN ‘TAX PLANNING’ AND ‘TAX MANAGEMENT’ .

<i>Tax Planning</i>	<i>Tax Management</i>
(i) The Objective of Tax Planning is to minimize the tax liability	The objective of Tax Management is to comply with the provisions of Income Tax Law and its allied rules.
(ii) Tax Planning also includes Tax Management	Tax Management deals with filing of Return in time, getting the accounts audited, deducting tax at source etc.
(iii) Tax Planning relates to future.	Tax Management relates to Past ,. Present, Future. Past – Assessment Proceedings, Appeals, Revisions etc. Present – Filing of Return, payment of advance tax etc. Future – To take corrective action
(iv) Tax Planning helps in minimizing Tax Liability in Short-Term and in Long Term.	Tax Management helps in avoiding payment of interest, penalty, prosecution etc.
(v) Tax Planning is optional.	Tax Management is essential for every assessee.

The Difference Between ‘Tax Avoidance’ And ‘Tax Evasion’

THE DIFFERENCE BETWEEN ‘TAX AVOIDACNE’ AND ‘TAX EVASION’

<i>TAX AVOIDANCE</i>	<i>TAX EVASION</i>
(i) Where the payment of tax is avoided though by complying with the provisions of law but defeating the intension of the law is known as tax Avoidance.	Where the payment of tax is avoided through illegal means or fraud is termed as tax evasion.
(ii) Tax Avoidance is undertaken by	Tax evasion is undertaken by employing unfair

taking advantage of loop holes in law	means
(iii) Tax Avoidance is done through not malafied intention but complying the provision of law.	Tax Evasion is an unlawful way of paying tax and defaulter may punished.
(iv) Tax Avoidance looks like a tax planning and is done before the tax liability arises.	Tax evasion is blatant fraud and is done after the tax liability has arisen

Cost Concept:

The concept of cost is a key concept in Economics. It refers to the amount of payment made to acquire any goods and services. In a simpler way, the concept of cost is a financial valuation of resources, materials, undergone risks, time and utilities consumed to purchase goods and services. From an economist's point of view, the cost of manufacturing any goods and services is often said to be the concept of opportunity cost.

With heightened competition in today's world, companies urge to make maximum profits. The company's decision to maximize earnings relies on the behaviour of its costs and revenues. Besides the concept of opportunity cost, there are several other concepts of cost namely fixed costs, explicit costs, social costs, implicit costs, social costs, and replacement costs.

Hence there are several different types of concepts of cost, which have been discussed in the following.

Types of Cost Concept

The idea behind the concept of opportunity cost is that the cost of one item is the lost opportunity to do something else. For example, by being married to a person, one could lose the opportunity to marry some other person or by investing more capital on video games, one might lose the opportunity in watching movies.

The concept of cost can be effortlessly comprehended by classifying the costs. The process of grouping costs is based on similarities or common characteristics. A well-defined classification of costs is certainly essential to mention the costs of cost centres. The different types of cost concept are:

- Outlay costs and Opportunity costs
- Accounting costs and Economic costs
- Direct/Traceable costs and Indirect/Untraceable costs
- Incremental costs and Sunk costs
- Private costs and Social costs
- Fixed costs and Variable costs

Based On The Nature of Expenses

1. Outlay Costs

The authentic payments undergone by an entrepreneur in employing input is known as outlay cost. It includes costs on payments of fuel, rent, electricity, etc.

2. Concept of Opportunity Cost

It is the value of the next best thing you give up whenever a decision is made by you.

Classification In Terms Of Traceability

1. Direct Costs

A direct cost is a cost that is related to the production method of a good or service. It is the opposite of an indirect cost.

These costs are related to a certain product or a process. They are also known as traceable costs as it could be traced to a specific activity. It is the opposite of an indirect cost.

2. Indirect Costs

Indirect costs are the expenses that could not be traced back to a single cost object or cost source. They are also known as untraceable costs. However, they are extremely important as they affect the total profitability.

Concept of Costs In Terms of Treatment

1. Accounting Costs

Accounting costs are direct costs. They are also known as hard costs. The entrepreneur pays the cash directly for obtaining resources for production. It includes the cost of prices that are paid for the machines and raw materials, electricity bills, etc. These costs are treated as expenses.

2. Economic Costs

The economic cost is the combination of gains and losses of the products. This cost is mainly used by economists to compare one with another.

Classification Based on the Purpose

1. Incremental Cost

Incremental costs are the changes in future costs and that will occur as a result after a decision is made.

2. Sunk Costs

Sunk costs are the costs that cannot be recovered after sustaining. It includes the amount spent on conducting research and advertising.

Types of Cost Concept based on Players and Variability

1. Based on Payers

Private cost implies the cost that is sustained when an individual produces or consumes something. The business person spends his/ her own private or business interests. The social cost is the cost to an entire society that results from a news event or a change in the policies.

2. In Terms of Variability

As the term predicts, fixed costs don't change in the volume of output. These costs are constant even with an increment or decrement in the volume of services/ goods produced or sold. Variable costs, in simple words, are a cost that varies according to the outcome of the output. Higher production costs higher expenses and lower production costs lower expenses. If the production is more, the business will pay more and vice versa.

Classifications of cost

Cost Classification refers to a complete and transparent idea of separation of expenses in the different sector as like manufacturing cost, product cost, sunk cost, variable cost, direct cost, and indirect cost etc. Classifications of cost are a vital part of a company. It is almost impossible to operate a business without understanding it properly.

Cost classification is an extensive motive. We can divide the cost classification into several categories. Here are including the main categories.

- Classification of cost according to the element
- Cost classification according to function
- Depending on behavior
- According to relevancy
- According to management

Classification of cost according to the element:

In according to element cost can be divided into two main categories. It is also known as **classifications of cost by nature**.

Direct cost:

It is such a cost that is able to mark directly any particular cost such as raw materials, labor included operating expenses and some other costs are belongs to the direct cost. These costs are bind in a unit. For example, we can say a total cost of an advertisement for several products. The direct cost has some subcategories.

- **Direct element:** Direct element refers to that material which is related all of the finished product. This material is a part to complete any product. It can have imposed

conveniently on the particular product. The purchased and upcoming requisite products are including in direct element. As like, all kinds of initial packing material.

- **Direct labor:** Direct labor means the paid salary to the employee who is directly engaged in manufacturing, handling and processing a product. Actually, they are responsible for the observation and maintenance of the product also.
- **Direct expense:** Which cost is directly related to any particular expenses is called direct expense. If a company needs to buy some specific product, equipment or tools are the examples of direct expense.

Indirect cost:

Indirect cost means the opposite side of direct cost. Which cost is related to a unit or department and can't trace for any specific product is called indirect cost. The indirect cost has also some subcategories.

- **Indirect element:** Some example of indirect materials is cleaning chemicals, small tools, glue, and maintenance work. Fuel etc. These element costs are incurred as a unit.
- **Indirect labor:** Indirect labor is covering the supervisors and the inspector's salary. The worker of cleaner and storekeeper wages is also including in the indirect labor.
- **Indirect expenses:** Indirect expenses are house rent, hospital service, lighting, insurance, and welfare trust.

Indirect cost and the overhead cost is often the same. It follows the indirect labor cost formula.

- **Factory overheads:**

It is related to all kinds of indirect costs like manufacturing products and time keeper's salary.

- **Selling and distribution overhead:**

This overhead is included with advertising expense and packing materials costs such as free advertising, marketing on the field.

- **Administration and office overhead:**

Administrative expenses is an expense of office works related expenses such as office lighting, rent welfare trust are including here.

Cost classification according to function:

Cost is classified by the following categories. The main four categories of functional costs are given below-

- **Prime cost:** Prime cost is the adjustment of the direct material, direct labor, and direct costs. It is actually the result of these three elements.
- **Product cost:** It means the factory cost with administrative and office overheads

- **Factory cost:** Factory cost is also known as work cost. It is combined with work cost and work expenses

Cost classifications depending on behavior:

By behavior or variability cost is classified as Variable cost, Fixed cost and Mixed cost which is explained below.

- **Variable cost:** Variable cost is such a cost which proportion is changing with the amount of production. Such as direct material and changeable costs
- **Fixed cost:** This cost won't change with the proportion of production. It is maximum time fixed. But it is notable that this cost may be changed after a long time. For example, office rent, insurance, and hospital cost.
- **Mixed cost:** Mixed cost can change overall but not with the proportion of production. More changeable cost is count under a Mixed cost. The example of a mixed cost is electricity expenses.

Cost classification according to relevance:

Relevance base cost is mainly divided into five categories which are given below;

- **Relevant cost:** Which cost can be by making a new decision is called relevant cost. Occasionally there may have many relevant costs. This cost is not fixed from before.
- **Opportunity cost:** Opportunity cost is the system of getting some extra advantages from the existing things of a factory like land, money and time etc. Someone can rent his office for another purpose of advantages. Moreover, they can rent their other things also. It is actually an extra benefit for a company.
- **Standard cost:** Standard cost is fixed from the previous experience. It was fixed according to the specific budget, the volume of an industry. The actual cost is also included with this cost.
- **Controllable cost:** Which cost can be controlled by management is called controllable cost. The manager can control some cost.
- **Sunk cost:** It is known as a historical cost. Sunk cost effect is most important for a company. It is such a cost which is already lost and can't be undone anymore. If a company is paid their monthly rent than we can say this rent cost is sunk cost.

Classification of cost according to management:

These costs are mainly divided into two categories; Manufacturing cost and Non-manufacturing cost given are given below;

- **Manufacturing cost:** Manufacturing cost refers to the total cost of a product from the raw materials to finish the product. It is mainly the combination of direct material cost, labor cost, and manufacturing overheads.
- **Non-manufacturing cost:** In order, the rules of GAAP Non-manufacturing cost are not actual product cost. It is a part of the company's income statement.

Preparation of Cost Sheet:

A cost sheet is a statement prepared at periodical intervals of time, which accumulates all the elements of the costs associated with a product or production job. It is used to compile the margin earned on a product or job and forms the basis for the setting of prices on similar products in the future.

Cost Sheet Format

A Cost Sheet depicts the following facts:

1. Total cost and cost per unit for a product.
2. The various elements of cost such as prime cost, factory cost, production cost, cost of goods sold, total cost, etc.
3. Percentage of every expenditure to the total cost.
4. Compare the cost of any two periods and ascertain the inefficiencies if any.
5. Information to management for cost control
6. Calculate and summarize the total cost of the product.

Learn more about Meaning of Cost Accounting here in detail.

Objects of Cost Sheet

1. For determining the selling price

A cost sheet helps in determination of selling price of a product or of a service. Cost sheet ascertains cost at each stage of the product and also the total cost of the product, where a margin of profit is added and thus the selling price is ascertained.

2. Facilitating in managerial decision making

Preparation of cost sheet helps managers at various levels in their decision-making process such as

1. to produce or buy a component,
2. what price of goods to quote in the tender,
3. whether to retain or replace an existing machine,
4. how to reduce costs and maximize profit.
5. identify and make decisions whether they need to continue with the product or not.

3. Preparation of budgets

Organizations can prepare a budget with the help of a cost sheet. We can prepare the budget by using the current or previous year's data.

Based on our existing cost sheet, we can make estimates of our cost for the next financial year. It helps to prepare and make the necessary arrangement of funds for costs of the next financial year

Elements of Cost

Prime Cost: It comprises of direct material, direct wages, and direct expenses. Alternatively, the Prime cost is the cost of material consumed, productive wages, and direct expenses.

Factory Cost: Factory cost or works cost or manufacturing cost or production cost includes in addition to the prime cost the cost in indirect material, indirect labor, and indirect expenses. It also includes amount or units of WIP or incomplete units at the end of the period.

Cost of Production: When Office and administration cost at the end of the period are added to the Factory cost, we arrive at the cost of production or cost of goods sold. Here, we make an adjustment for opening and Closing finished goods.

Total Cost: Total cost or alternatively cost of sales is the cost of production plus selling and distribution overheads.

Proforma of A Cost Sheet

	PARTICULARS	AMOUNT	AMOUNT
			TOTAL
	DIRECT MATERIAL-PURCHASED		
ADD	OP STOCK OF RAW MATERIAL		
LESS	CL STOCK OF RAW MATERIAL		
	MATERIAL CONSUMED		
ADD	DIRECT WAGES		
ADD	DIRECT EXPENSES		
	PRIME COST		
ADD	WORKS OR FACTORY OVERHEADS		
	Factory Overheads		
ADD	OP STOCK OF WIP		

LESS	CL STOCK OF WIP		
	WORK COST		
ADD	ADMINISTRATION OR OFFICE OVERHEADS		
	COST OF PRODUCTION		
ADD	SELLING AND DISTRIBUTION OVERHEADS		
ADD	OP STOCK OF FG		
LESS	CL STOCK OF FG		
	COST OF SALES		
ADD	PROFIT MARGIN		
	SELLING PRICE		

Method of Preparation of Cost Sheet

Step I	<p>Prime Cost = Direct Material Consumed + Direct Labour + Direct Expenses</p> <p>Direct Material= Material Purchased + Opening stock of raw material-Closing stock of raw material.</p>
Step II	<p>Works Cost = Prime Cost + Factory Overheads (Indirect Material + Indirect Labour + Indirect Expenses)+opening Work in progress-Closing Work in progress</p>
Step III	<p>Cost of Production = Works Cost + Office and Administration overheads + Opening finished goods-Closing finished goods</p>

Step IV	Total Cost = Cost of Production + Selling and Distribution Overheads
Profit	Sales – Total Cost

UNIT 5

CVP Analysis

CONCEPT: CVP Analysis– Break-even Point, concept of contribution and P/V Ratio, Margin of Safety (Including Numerical problems) - Managerial uses of Break-even concept – product mix, make or buy decision, capacity utilization, plant shut down decision, Standard Costing – Variance Analysis – Material Variances – Labour Variances (Simple Problems Related to Material and Labour Variances Only)

CVP Analysis:

Cost-Volume-Profit (CVP) Analysis :Cost-volume-profit (CVP) analysis is a method of cost accounting that looks at the impact that varying levels of costs and volume have on operating profit.

C.V.P. analysis is a technique used to study the inter-relationship between costs, sales and net profit. It shows the net effect that fluctuation in cost, price and volume has on profits. The higher the volume of output, the lower will be the unit cost of production and vice-versa as the fixed overhead cost in total cost does not change with changes in the volume of output.

CVP analysis is thus the study of inter-relationship of cost behaviour, levels of activity and the resultant profit from each alternative combination. Each of these three variables involved in CVP analysis is influenced by a number of factors. The cost of a product is, for instance, influenced by factors such as cost of inputs, volume, size of plant, efficiency of production, product- mix, etc.

Basic questions of interest to management decision making areas, e.g., what should be the volume for a desired profit, what changes in selling price affect profit position, what should be the optimum product-mix of the company, how variation of cost affects profit, etc., are answered by this analysis. C.V.P. analysis can be made with the help of equations, graphs, charts, etc.

Profit depends on many factors of which the selling price of the product sold, its cost of production and the volume of sales effected are most significant. Again, selling price depends to some extent on costs if a certain profit is to be earned, and volume of sales depends on volume of manufacture, which again is related to costs.

Cost depends on various factors, e.g., –

- (i) product-mix,
- (ii) volume of manufacture,
- (iii) internal efficiency or inefficiency in manufacture,

(iv) size of order,

(v) variation of methods of production,

(vi) size of plant and

(vii) cost procedure followed (e.g., pricing of issues of materials, methods of recovery of overhead, method of wage payment, etc.).

Of all these, volume is the most significant factor. Volume often changes in business. When such changes occur due to outside factors management finds it difficult to control. C.V.P. analysis gives a complete picture of the profit structure which helps management to distinguish between the effect of sales, volume fluctuations and the results of price or cost variations on profit. It is an extension of marginal costing and uses the principles of marginal costing.

Cost Volume Profit Analysis – Definition and Meaning

The Official CIMA Terminology defines cost-volume-profit analysis as “the study of the effects on future profit of changes in fixed cost, variable cost, sales price, quantity and mix.” Accordingly, the objective of CVP analysis is to determine what will happen to financial results reflected in profit if a specified level of activity reflected in the volume fluctuates.

CVP analysis is thus the study of inter-relationship of cost behavior, levels of activity and the resultant profit from each alternative combination. Each of these three variables involved in CVP analysis is influenced by a number of factors. The cost of a product is, for instance, influenced by factors such as cost of inputs, volume, size of plant, efficiency of production, product- mix, etc.

Similarly, the price of a product is influenced by such factors as market demand, competitive conditions, marketing policies, etc. The volume or the level of activity, in the short run, is dependent upon the existing production facility. Just as it takes time to expand output or the level of activity, it is equally so with regard to reduction in capacity.

Although it is true that none of the three variables can be singled out as the most important factor influencing the amount of profit, volume, is still the influencing factor. Short-run profitability will always be sensitive to sales volume.

CVP analysis is restricted to a period of one year or less. During this period, the output of a firm is limited to that available from the current operating capacity. Consequently, the analysis highlights the effects of changes in sales volume on the level of profits.

6 Main Objectives of Cost Volume Profit Analysis

(1) To forecast profit accurately, it is absolutely essential to determine the relationship between costs and profits on one hand and volume on the other. It aims at measuring variations in cost with volume.

Profit planning considers the projected level of output, optimum product combination, estimated revenue, total cost of production and is thus based on C.P.V. analysis.

(2) C.V.P. analysis is used in setting up flexible budgets which show costs at various levels of activities.

(3) C.V.P. analysis helps management in the evaluation of performances for control purposes.

(4) C.V.P. analysis may be helpful in formulating pricing policies by projecting the effect that various price structures have on costs and profits, especially when the demand for the product is elastic.

(5) C.V.P. analysis helps to ascertain the amount of overhead costs that could be charged to product costs at different levels of operation.

(6) It helps in making short-run tactical decisions, e.g., shift working, acceptance of special order, choice of sales-mix, etc.

Cost Volume Profit Analysis – Purposes

It analyses the relationship among cost, volume and profit and can be used for the following purposes:

(i) To ascertain the amount of profit (or loss) at any level of activity.

(ii) To determine the selling price/sales volume which will give the desired amount of profit.

(iii) To ascertain the selling price/sales volume which will yield the desired return on capacity employed.

(iv) To determine costs and revenues at various levels of activity.

(v) To ascertain the effect of change (increase or decrease) in fixed costs, variable costs, selling price, production/sales volume on profit.

(vi) To suggest the change in sales mix for obtaining maximum profits.

(vii) To compare profitability among products and firms.

Presentation of CVP Analysis – Formula, Contribution and Equation

Cost-volume-profit relationship may be presented either mathematically or graphically. The mathematical method yields the required information more quickly than the graphical method. Besides, it is a flexible method also. While presenting the CVP relationship mathematically, it is necessary to make the assumption that selling price and variable cost remain constant per unit of output.

CVP analysis is an extension of marginal costing. In the context of marginal costing, it has been pointed out that sales revenue minus variable cost of sales gives us contribution to be applied for the recovery of fixed cost. Profit will then be the excess of contribution over fixed cost. This can be put in the form of a mathematical formula, known as the 'Marginal Cost Equation'.

This formula is:

$$\text{Sales} - \text{Variable cost} = \text{Contribution} = \text{Fixed cost} + \text{Profit}$$

$$\text{OR, Net profit} = (\text{Units sold} \times \text{Price per unit}) - (\text{Units sold} \times \text{Variable cost per unit}) + \text{Total fixed cost}$$

$$\text{OR, Sales} - \text{Variable cost} - \text{Fixed cost} = \text{Profit}$$

$$\text{OR, Sales} = \text{Variable cost} + \text{Fixed cost} + \text{Profit}$$

$$\text{OR, } P = px - (a + bx)$$

Where P is the net profit, p is the selling price, x is the number of units sold, a is the total fixed cost, and b is the variable cost per unit.

Contribution:

Excess of sales revenue over variable cost is known as 'contribution'. The Official CIMA Terminology defines this term as "Sales revenue less Variable cost of sales". This may be expressed as total contribution, contribution per unit or as a percentage of sales. It is called 'contribution' as it initially contributes towards the recovery of fixed costs and thereafter, towards profit of the business.

This contribution is a 'fund' for both fixed expenses and profit. The contribution concept is based on the theory that profit and fixed expenses of a business constitute joint cost which cannot be equitably apportioned to different segments of the business. Hence, contribution serves as a measure of efficiency of operations of various segments of the business. Profit is the excess of contribution over fixed cost.

When put in the form of an equation:

$$\text{Contribution} = \text{Fixed cost} + \text{Profit} \dots (1)$$

$$\text{OR, } C = F + P$$

$$\text{OR Sales (S)} - \text{Variable cost (V)} = \text{Contribution (C)} \dots (2)$$

Putting (1) and (2) together, we get:

$$\text{Sales} - \text{Variable cost} = \text{Fixed cost} + \text{Profit}$$

OR, $S - V = F + P$

This is the fundamental marginal costing equation also known as the cost- volume-profit equation.

Break Even Analysis, Break-Even Point and Break-Even Chart

Break-even analysis is a widely used technique to study cost-volume-profit relationship. The narrower interpretation of the term break-even analysis refers to a system of determination of that level of activity where total cost equals total selling price.

The broader interpretation refers to that system of analysis which determines probable profit at any level of activity. It portrays the relationship between cost of production, volume of production and the sales value. It may be added here that CVP analysis is also popularly, although not very correctly, designated as "Break-even Analysis."

The difference between the two terms is very narrow. CVP analysis includes the entire gamut of profit planning, while break-even analysis is one of the techniques used in this process. However, the technique of break-even analysis is so popular for studying CVP Analysis that the two terms are used interchangeably. For the purposes of this study, we have also not made any distinction between these two terms.

The cost of production, can be divided into fixed and variable costs, and at different levels of production, changes are bound to occur in such costs. The effect on profit on account of such variations is studied through break-even analysis.

Besides that in business, the selling prices of products are also changed from time to time. It is essential for business to know the impact of such changes on profits. Break-even analysis is a media to have an insight into these effects and thus helps in taking important managerial decisions.

Break-Even Point:

The point which breaks the total cost and the selling price evenly to show the level of output or sales at which there shall be neither profit nor loss, is regarded as break-even point. At this point, the revenue of the business exactly equals its cost. If production is enhanced beyond this level, profit shall accrue to the business, and if it is decreased from this level, loss shall be suffered by the business.

Break-even point is the point at which contribution is just sufficient to recover fixed costs; since whatever fixed costs are incurred in the business, these are absorbed by production till this point. Whatever production takes place beyond this level, it will yield additional contribution in the form of profit only. In other words, increase in contribution means increase in profit.

The break-even point can be expressed thus:

$$\text{Break-even Point (of sales)} = \frac{\text{Fixed Cost}}{\text{P / V Ratio}}$$

$$\text{or } \frac{F}{S - V} \times S$$

$$\text{or } \frac{\text{Fixed Cost}}{\text{Total Contribution}} \times \text{Total Sales}$$

$$\text{or } \frac{\text{Fixed Cost}}{\text{Contribution per unit}} \times \text{Selling Price per Unit}$$

or Break-even Output \times Selling Price per Unit

$$\text{Break-even Point (of output)} = \frac{\text{Fixed Cost}}{\text{Contribution per unit}}$$

$$\text{or } \frac{\text{Break even Sales}}{\text{Selling Price per unit}}$$

$$\text{At BEP, Total Costs} = \text{Total Sales} \quad \dots (i)$$

$$\therefore \text{At BEP } \frac{\text{Total Cost}}{\text{Total Sales}} = 1 \quad \dots (ii)$$

$$\text{At BEP, Contribution} = \text{Fixed Cost} \quad \dots (iii)$$

$$\text{or } \frac{\text{Fixed Cost}}{\text{Total Contribution}} = 1 \quad \dots (iv)$$

Fundamental Marginal Costing Equation and Equation to Derive Relevant Variables.

Fundamental Equation:

The fundamental marginal costing equation, out of which the different tools of marginal costing technique have been developed, is as under:

$$S - V = F + P \quad \dots (a)$$

where S stands for Sales

V stands for Fixed Cost

F stands for Fixed Cost

P stands for Profit, or 'Contributory Margin'

(i) Contribution :

Whatever is derived under (a) is also known as 'contribution'. Hence

$$\text{Contribution} = S - V \quad \dots (b)$$

$$= F + P \quad \dots (c)$$

(ii) P/V Ratio :

If we divide (b) and (c) by sales, we get the

P/V Ratio :

$$\text{Hence, P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} = \frac{S - V}{S} = \frac{F + P}{S}$$

If any of the variables-sales, profits, fixed cost, variable cost or contribution is required to be known, it can be calculated by modifying the above formulae :

By cross multiplying in formula (d), we get

$$\text{Contribution} = \text{P/V Ratio} \times \text{Sales} \quad \dots (g)$$

(iii) Sales :

By transferring P/V Ratio to the other side in (g), we get

$$\text{Sales (at a desired level of profit)} = \frac{\text{Contribution}}{\text{P/V Ratio}} \quad \dots (h)$$

By using equations (b) and (c) in (h), we deduce respectively,

$$\text{Sales (at a desired level of profit)} = \frac{S - V}{\text{P/V Ratio}} \quad \dots (i)$$

$$= \frac{F + P}{\text{P/V Ratio}} \quad \dots (j)$$

(iv) Profit :

By cross multiplying in formula (j) or (i), we get

$$F + P = \text{Sales} \times \text{P/V Ratio} \quad \dots (k)$$

Transferring F to the other side, we get

$$\text{Profit (at desired level of sales)} = S \times \text{P/V Ratio} - F \quad \dots (l)$$

i.e., Sales \times P/V Ratio - Fixed cost

Using equation (c) or substituting (g) in (l), we get

$$\text{Profit} = \text{Contribution} - \text{Fixed Cost} \quad \dots (m)$$

(v) Fixed Cost :

Under equation (k), by transferring 'P' to the other side, we get

$$\text{Fixed cost} = S \times \text{P/V Ratio} - P$$

i.e., Sales \times P/V Ratio $-$ Profit

... (n)

or Contribution $-$ Profit

(vi) Variable Cost :

As per equation (e),

$$\text{P/V Ratio} = \frac{S - V}{S}$$

$$\text{or P/V Ratio} = \frac{S}{S} - \frac{V}{S} = 1 - \frac{V}{S}$$

$$\text{or } \frac{V}{S} = 1 - \text{P/V Ratio}$$

i.e., Variable Cost to Sales Ratio = $1 - \text{P/V Ratio}$

... (o)

or $V = S (1 - \text{P/V Ratio})$

... (p)

(vii) Break-even Point :

The point at which there is neither profit nor loss can be known by putting 'zero' in place of 'P' under equation (f) :

$$\text{At BEP, P/V Ratio} = \frac{\text{Fixed Cost}}{\text{Break even sales}}$$

By cross multiplying we get

$$\text{Break even Sales} = \frac{F}{\text{P/V Ratio}}$$

... (q)

Putting (e) in (q),

$$\text{BEP} = \frac{F \times S}{S - V}$$

... (r)

Substituting $S - V$ by Contribution,

$$\text{BEP} = \frac{F \times \text{Sales}}{\text{Contribution}}$$

... (s)

In stead of the 'rupee' values units of output can also be known :

Since Sales = Output \times Price per Unit,

$$\text{Break-even Output} = \frac{\text{Break - even Sales}}{\text{Selling price per Unit}}$$

... (t)

Since Total Contribution = Sales $-$ Variable Cost

\therefore Contribution per unit = Selling price per Unit $-$ Variable Cost per Unit

... (u)

$$\text{and P/V Ratio} = \frac{\text{Contribution per Unit}}{\text{Selling price per Unit}}$$

$$\text{or } \frac{(S - V) \text{ per Unit}}{\text{Selling price per Unit}}$$

... (v)

$$\therefore \text{BEP (of sales)} = \frac{\text{Fixed Cost}}{\text{Contribution per Unit}} \times \text{Selling price per unit}$$

... (w)

Dividing (w) by selling price per unit, we get :

$$\text{BEP (of output)} = \frac{\text{Fixed Cost}}{\text{Contribution per Unit}}$$

... (x)

Substituting Contribution per unit, in place of P/V Ratio in (j)

$$\text{Sales (units at desired level of profit)} = \frac{F + P}{\text{Contribution per Unit}} \quad \dots (v)$$

or
$$\frac{\text{Total Contribution}}{\text{Contribution per Unit}} \quad \dots (z)$$

Observation:

The student needs to remember only the fundamental marginal costing equation. He need not cram all the equations. The desired equation can be derived by him, by self, simply by twisting the fundamental marginal costing equation.

However, the methodology, mainly mathematical, has to be understood by him, for purposes of application. There can be other derivations also from the above equations, to suit the particular requirements.

Cost Break-Even Point/Cost Indifference Point:

It refers to a situation where the costs under two alternatives is equal. It is also known as Cost Indifference Point. The point enables the firm to identify which alternative is better to operate at a given level of output or activity.

The cost break-even point can be computed as under:

$$\text{Cost Break-even Point (in units)} = \frac{\text{Increase in Fixed Cost}}{\text{Saving in variable cost per unit}}$$

Cash Break-Even Point:

It is the level of output or sales where there will be “no cash profit and no cash loss” to the firm. In other words it is that activity level where the cash inflow will be just equal to cash required to meet immediate cash liabilities. For this purpose, the fixed costs are divided into two categories-

- (i) Fixed Costs which do not require immediate cash outlay e.g., depreciation, deferred expenses, and
- (ii) Fixed Costs which require immediate cash outlay, e.g., rent, salaries, etc.

The formula for its computation can be put as follows:

$$\text{Cash Break-even Point (of Output)} = \text{Cash Fixed Costs/Cash Contribution per unit.}$$

Example:

Selling Price per unit Rs. 10

Variable Cost per unit Rs. 6

Fixed Costs Rs. 5,000

Fixed costs include Rs. 2,000 as depreciation, 50% of which has been taken as variable cost and included in the variable cost per unit given above presuming an activity level of 1,000 units.

The Cash Break-even point can be calculated as follows:

$$\begin{aligned}\text{Cash Break-even Point} &= \frac{\text{Cash Fixed Costs}}{\text{Cash Contribution per Unit}} \\ &= \frac{5,000 - 1,000}{10 - (6 - 1)} \\ &= \frac{4,000}{5} = 800 \text{ Units}\end{aligned}$$

Composite Break-Even Point:

In case a concern is dealing in several products, a Composite Break-even Point can be computed according to the following formula:

$$\begin{aligned}\text{Composite Break-even Point (in units)} &= \frac{\text{Composite Fixed Cost}}{\text{Composite contribution per unit}} \\ \text{Composite Break-even Point (of Sales in Rs.)} &= \frac{\text{Total Fixed Costs}}{\text{Composite } P/V \text{ Ratio}} \\ \text{or} &= \frac{\text{Total Fixed Costs} \times \text{Total Sales}}{\text{Total Contribution}} \\ \text{Composite } P/V \text{ Ratio} &= \frac{\text{Total Contribution}}{\text{Total Sales}} \times 100\end{aligned}$$

Break-Even Chart:

The relationship between costs, profit and volume is best visualised by relating them on a chart called a break-even chart. It is also known as a profit-volume chart or graph. This term is rather more appropriate, since the term 'Cost-volume-profit analysis' is more suitable than the term 'break-even analysis'.

The chart not only shows the point at which the costs and revenues would break-even, but also presents the costs, revenues and profits at various levels of output. The effect of changes in costs, selling price and volume of production can also be studied through this visual aid.

Accounting to the Chartered Institute of Management Accountants, London, the break-even chart is “a chart which shows profit and loss at various levels of activity, the level at which neither profit nor loss is shown, being termed the break-even point. This may also take the form of a chart on which is plotted the relationship either of total cost of sales to sales or of fixed costs to contribution.”

Thus the break-even chart is a condensed pictorial representation of a master flexible budget, showing the normal profit for any given sales volume. It is a useful device for presenting a simplified picture of profit-volume relationships and to aid in demonstrating the effects of changes in various factors such as, volume, prices and costs. The chart impresses effectively and tells the entire story at a glance.

A break-even chart portrays:

1. Likely profits or losses at different levels of output;
2. The relationship between marginal costs and fixed costs;
3. The rate of growth of profit-earning for a convenient unit of output;
4. The break-even point;
5. The margin of safety;
6. The angle of incidence – The angle formed by the sales line and the total cost line at the break even point is known as “angle of incidence”. A high rate of profit is indicated by a large angle of incidence and vice versa.
7. The contribution and the P/V ratio (if desired).

Assumptions Underlying Break-Even Charts/Analysis:

While drawing break-even charts it is assumed that:

- (i) Fixed costs remain constant at every level and do not increase or decrease with change in output.
- (ii) Variable cost fluctuates directly with output. In other words they vary in the same proportion in which the volume of output or sales varies.
- (iii) All costs are capable of being bifurcated into fixed and variable elements.
- (iv) Selling price remains constant even with the volume of production or sales changes.
- (v) Production and sales remain identical. Inventories do not change. They are kept either constant or at zero level.

- (vi) There is only one product or a constant mix of product.
- (vii) Costs are affected by volume only.
- (viii) Periods are short enough that the time value of money is not important.
- (ix) There will be no change in manufacturing methods and product specifications.
- (x) Operating efficiency will not increase or decrease.

Advantages of Break-Even Charts/Analysis:

1. Provides detailed and clearly understandable information:

The chart visualises the information very clearly and a look at a glance shall give a vivid picture of whole affairs. The different elements of cost—direct materials, direct labour, overheads (factory, office and selling etc.)—can be presented through an analytical break-even chart. Further, the information presented is in a simple form and therefore is clearly understandable even to a layman.

2. Profitability of products and business can be known:

The profitability of different products can be known with the help of break-even charts, besides the level of no-profit-no-loss. The problem of managerial decision regarding temporary or permanent shutdown of business or continuation at a loss can be solved by break-even analysis.

3. Effect of changes of cost and sale prices can be demonstrated:

The effect of changes of fixed costs and variable costs at different levels of production on profits can be demonstrated by the graph legibly. Effect of changes in sales price also can be quickly grasped by the management by having a look at the break-even chart.

In other words, the relationship of cost, volume and profit at different levels of activity and varying selling prices is shown through the chart. Thus, it studies the requisites for survival of the company.

4. Cost control can be exercised:

The break-even chart shows the relative importance of the fixed cost in the total cost of a product; and if the fixed costs are high, they can be controlled by the management. Thus, it is a managerial tool for control and reduction of costs, elimination of wastage, and achieving better efficiency.

5. Economy and efficiency can be affected:

The capacity can be utilised to the fullest possible extent and economies of scales and capacity utilisation can be affected. Comparative plant efficiency can be studied on the break-even chart. The efficiency of output in plant is indicated by the angle of incidence formed at the intersection of the variable cost line and the sales line.

6. Forecasting and planning possible:

Break-even analysis is very helpful for forecasting, long- term planning, growth and stability.

Limitations of Break-Even Charts/Analysis:

1. Based on False Assumptions:

(a) Fixed costs do not always remain constant:

The assumptions underlying break-even charts do not normally hold good in every business concern. Fixed costs vary and do not remain constant at all levels of production. They have a tendency to rise to some extent after the production is increased beyond a certain level.

(b) Variable costs do not always vary proportionately:

The variable costs also do not always change in the same proportion as the volume of production or sales changes. Usually, the proportion increases if the law of diminishing returns is applicable in the business and it decreases if the law of increasing returns is applicable.

This presents difficulty in the drawing of the variable cost line (i.e., the total cost line) and the fixed cost line. The lines drawn are not straight and sometimes a curved line is obtained in respect of total costs.

(c) Sales revenue does not always change proportionately:

Besides the cost aspect, the sales revenue aspect is also not reliable regarding its non-variability at all levels of production. Selling prices are often lowered down with increased production in effort to boost up sales revenues. This gives a curved line in respect of sales revenue also in place of a straight line.

When both the total cost line and the sales line are not straight lines, the result produced, i.e., the break-even point may not show the correct level of output at which the total revenues can just recover the total costs and nothing more. It is also not correct to assume that with the maximum of output, the sales revenues will also be at the maximum level.

(d) Stock changes affect incomes:

The break-even chart depicts the volume of production of sales along the 'X' axis and thus ignores the effect of changes in stock volume. As a matter of fact, it is assumed that stock changes will not affect the income. But it is not true since the absorption of fixed costs depends on production and not on sales.

(e) Condition of growth not assumed:

Conditions of growth or expansion in an organisation are not assumed under break-even analysis. In the actual life of any business organisation, the operations undergo a continuous process of growth and expansion.

2. Limited Information:

Only a limited amount of information can be presented in a single break-even chart. If we have to study the changes of fixed costs, variable costs and selling prices, a number of charts will have to be drawn up. Similarly, when a number of products are manufactured, it would be a tedious job to present the information through a single break even chart.

However, the data can be shown by drawing several break-even charts; since through only one chart, the number of units sold cannot be measured along the 'X' axis. Besides that for complete analysis of a problem, the break-even chart has to be supplemented by various schedules and statistical material.

3. No Necessity:

There is no necessity of preparing break-even charts on account of the following reasons:

(a) Simple tabulation sufficient –

Even simple tabulation of the results of cost and sales can serve the purpose which is served by a break-even chart. Hence need of presentation through a chart and using the mathematical tool of break-even analysis does not at all arise.

(b) Conclusive guidance not provided –

No conclusive basis or guidance for action is provided to the management by the technique of break-even analysis.

(c) Difficult to understand –

The chart becomes very complicated and difficult to understand, particularly for a non-technical man, if the number of lines or curves depicted on the graph are large.

(d) No basis for comparative efficiency –

The chart does not provide any basis for comparative efficiency between different units or organisations.

Profit/Volume Ratio – Meaning, Equation and Limitations

The (profit/volume) ratio is better known as (contribution/sales) ratio. It is the contribution per rupee of sales. It can measure the rate of change of profit due to change in the volume of sales, as fixed cost remains the same in the short term period.

P/V ratio can be written as follows:

$$\begin{aligned} \frac{P}{V} \text{ ratio} &= \frac{\text{Sales} - \text{Variable cost of sales}}{\text{Sales}} = \frac{\text{Contribution}}{\text{Sales}} \\ &= \frac{\text{Change in contribution}}{\text{Change in sales}} = \frac{\text{Change in profit}}{\text{Change in sales}} \end{aligned}$$

P/V ratio remains the same at different levels of activity. It is not affected by change in the fixed costs. A high P/V ratio indicates high profitability, whereas a low P/V ratio indicates low profitability. P/V ratio helps to compare the profitability of different sections of the business.

It helps to determine break-even point, profit at a given level of sales, sales volume needed to earn a given profit, profit for a given margin of safety, sales volume needed to maintain the present level of profit when selling price is reduced, profitability of products, processes or departments, etc.

From the above equation it is clear that P/V ratio can be improved if the numerator, i.e., contribution is increased. For increasing contribution either selling price is to be increased or variable cost is to be reduced.

Thus, improvement of y ratio can be done by any of the following ways:

- (i) Increasing selling price;
- (ii) Reducing variable costs by utilizing factors of production efficiently;
- (iii) By changing the sales mix, i.e., selling more profitable products and, thereby, improving the overall P/V ratio.

Where profitability is high, increase of volume of sales is possible by spending more in advertisement and sales promotion.

Limitations of P/V Ratio:

The use of P/V ratio has the following limitations:

- (i) P/V ratio leans heavily on excess of revenues over marginal costs.
- (ii) P/V ratio does not consider the capital outlays needed by the additional productive capacity and the additional fixed costs, which are added.
- (iii) It shows only the relative profitability of product lines which does not help to take a final decision.
- (iv) The basic requirement for comparing profitability through P/V ratio is the proper separation of costs into fixed and variable components. Over-simplification may result in incorrect conclusion.
- (v) Higher P/V ratio per unit of sales or per unit of production indicates the most profitable item only when other conditions remain unchanged.

Margin of Safety – Introduction, Formula and Examples

The difference between total sales and sales at break-even point represents the margin of safety. As the name indicates, it is the amount of sales above the break-even point. If there is fall in the sales to the extent of margin of safety, the firm will not be in the red. The higher the margin of safety, the better the situation. If a firm has a high margin of safety, it will continue earning profits even if there is a slight fall in the sales.

A high margin of safety provides strength and stability to the firm. A company should endeavour to keep its break-even point at the lowest level and, to maintain actual sales at the highest level. This is possible either by controlling fixed costs or by a dynamic sales policy or by reducing variable costs. Margin of safety can be expressed in absolute terms and also in terms of percentage.

In absolute terms, margin of safety is –

Actual sales – Sales at break-even point.

In terms of percentage, also called margin of safety ratio, it is commuted as under –

$$\frac{\text{Margin of safety in absolute terms}}{\text{Actual sales}} \times 100$$

Example:

If actual sales of a firm are Rs. 60 lakhs and break-even sales amount to Rs. 45 lakhs, the margin of safety in absolute terms will be –

Actual sales – Sales at break-even point

Rs. 60 lakhs – Rs. 45 lakhs = Rs. 15 lakhs.

In terms of percentage, margin of safety ratio is –

$$\frac{\text{Rs. 15 lakhs}}{\text{Rs. 60 lakhs}} \times 100 = 25\%$$

With the help of margin of safety ratio, profit can be determined as under –

Profit = Margin of safety ratio x P/V ratio x Actual sales

Conversely, Margin of safety = Profit ÷ P/V ratio

The above relationship indicates that once the break-even sales amount is achieved, contribution from all additional sales generates profits only.

Example:

Using the data and margin of safety in the above example and assuming P/V ratio to be 20% the profit figure can be ascertained as below –

$$\begin{aligned} \text{Profit} &= \text{Margin of safety ratio} \times \text{P/V ratio} \times \text{Actual sales} \\ &= 25\% \times 20\% \times \text{Rs. 60 lakhs} \\ &= \text{Rs. 3 lakhs} \end{aligned}$$

Or

$$\begin{aligned} \text{Profit} &= \text{Margin of safety} \times \text{P/V ratio} \\ &= \text{Rs. 15 lakhs} \times 20\% \\ &= \text{Rs. 3 lakhs.} \end{aligned}$$

and Margin of safety = Rs. 3 lakhs + 20%
Rs. 15 lacs.

Angle of Incidence – Meaning, Example and Graphs

Intersection of sales revenue line and total cost line creates an angle called Angle of Incidence. It is the indicator of the rate at which the company earns profit once it crosses the break-even point.

Though it is not possible to say, from the angle, the rate at which the company earns profit, it is possible to say whether it is at higher or lower rate depending upon the degree of the angle. Company with larger angle earns profit at a higher rate once it crosses the break-even point than the company with smaller angle of incidence.

This point becomes very obvious from the following example:

Company	Selling Price (₹)	Unit Variable Cost (₹)	Annual Fixed Cost (₹)	Break-Even Quantity (units)	Unit Contribution (₹)
A	10	9	15	15	1
B	10	3	105	15	7

From the above figures, it is obvious that both the companies have to sell 15 units each to break-even. Once they reach the break-even point, Company A starts earning contribution (and therefore, profit) at the rate of Rs.1 on each unit sold over and above the break-even quantity. On the other hand, Company B starts earning contribution (and therefore, profit) at the rate of Rs.7 on each unit sold over and above the break-even quantity.

Hence, the difference in the size of angle of incidence is evident from the graphs presented below:

One noteworthy point is that company A is having a very small angle and company B, a very big angle.

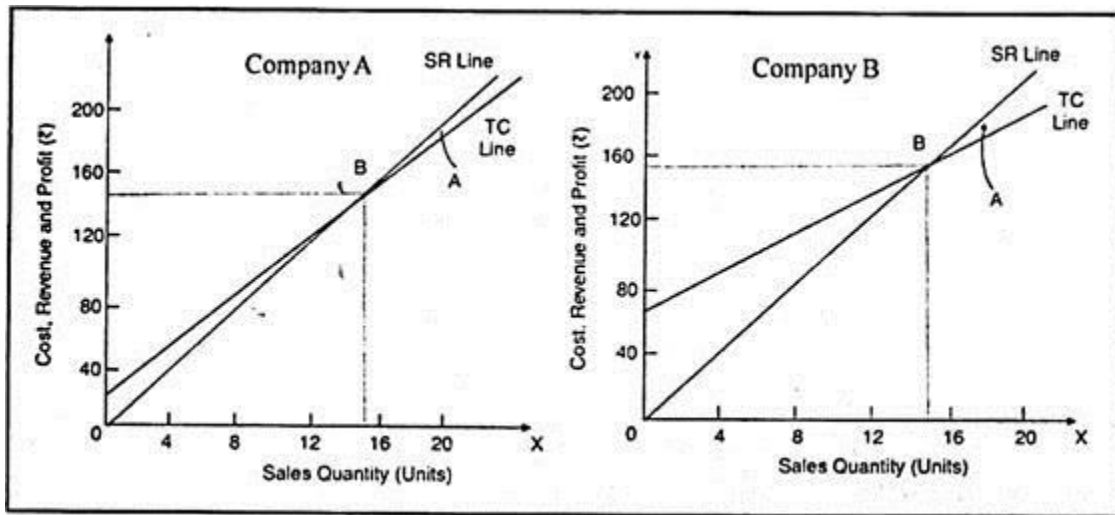


Figure - 13.9:
Break-Even
Charts - Angle
of Incidence

For the reasons cited above, companies work to achieve larger angle of incidence. Larger angle is an indication of higher P/v Ratio which in turn is an indication of lower Variable Cost Ratio. On the other hand, smaller angle indicates the lower P/v Ratio and therefore, higher Variable Cost Ratio. However, there is also another face to it.

This is relating to the angle left to the intersection point (i.e., break-even point). This indicates the rate at which the company's profit declines if the demand falls below the break-even point. For instance, in the case of A company, if the demand falls below the break-even line even by one unit, the company incurs loss at the rate of Rs.1 a unit.

On the other hand, in the case of B Company, if the demand falls below the break-even quantity by one unit, it loses Rs.7 of contribution and therefore, the company has to incur loss at the rate of Rs.7 a unit. It is, therefore, obvious that the company with large angle of incidence earn more profit if they are operating above the break-even point and if they are expecting higher demand for products when compared to other companies with smaller angles of incidence.

On the other hand, in the case of the company operating below the break-even level and expecting a further fall in the demand, a small angled company earns more because it loses less.

Profit Graph – Steps, Multi-Product Profit Graph, Limitations and Uses

It shows the relationship between profit and volume of sales.

The steps for construction of profit graph are:

1. Select a scale for sales on horizontal axis. The sales line divides the graph into two parts.
2. Select a scale for fixed costs, profit or loss on the vertical axis. The fixed costs and loss are shown below the sales line on the left hand side vertical line and profit is shown above the sales line on the right hand side vertical line.
3. Plot the fixed costs and profits of corresponding sales and join them to get the profit line. The profit line is a diagonal line which cuts the sales line at break-even point.

Multi-Product Profit Graph:

When a company produces several products, management must know the y ratio of each product as well as for all products to maximise profit by selling products having higher ratios. A profit graph may also show the profitability of each product as well as the overall position of all the products taken together.

Limitations of Profit Graph:

1. Fixed costs are considered as constant irrespective of activity in the period which is not true.
2. A constant sales-mix is assumed where several products are sold.
3. Revenue and marginal costs are seldom linear over the full range of activity depicted; hence contribution line is not, in practice, a straight line.
4. It does not take capital employed into consideration.
5. It gives only a general static picture as it covers usually one year.
6. Changes in stocks do not affect the graph.

Uses of Profit Graph:

1. It helps to determine break-even point.
2. It helps to forecast costs and profits resulting from changes in sales volume.
3. It shows impact on profits of selling at different prices for a product.

4. It shows the deviations of actual profit from anticipated profit, relative profitability for high or low demand.

Limitations of CVP Analysis

CVP analysis is subject to the following limitations:

- (a) All costs cannot be segregated into fixed and variable components;
- (b) It is wrong to assume that volume is the only dominant factor influencing costs, while inflationary conditions and political factors also influence costs;
- (c) Total fixed costs do not remain constant beyond certain ranges of activity; they increase in a step-like manner;
- (d) The assumption of constant sales mix is also wrong since sales-mix changes with changes in demand;
- (e) Where stocks are valued under absorption costing principles, profits vary with both production and sales. However, if they are valued under marginal costing principles, then profit will be the function of only sales; and
- (f) The analysis assumes that costs and sales can be predicted with certainty. In point of fact, however, these are uncertain and hence, cannot be predicted with accuracy.

Standard Costing - Meaning:

Standard cost is a predetermined calculation of the presumed cost under the specified conditions. It is built up from an assessment of the value of cost elements. It correlates technical specification of material, labour and other cost to the price or wage rate which have occurred during the period in which the standard cost is to be determined

Definition:

“Standard cost is the predetermined cost based on technical estimates for materials, labour and overhead for a selected period of time for a prescribed set of working conditions.”

-Chartered Institute of Management Accountants (C.I.M.A)
London,

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

-The Institute of Cost and Works Accountants defines standard costs

From the above definitions we may note that standard costs are:

Pre-determined cost: Standard cost is always determined in advance and ahead of actual point of time of incurring of costs.

Based on technical estimated: Standard cost is determined only on the basis of a technical estimate and on a rational basis.

For the purpose of Comparison: The very purpose of standard cost is to aid the comparison with actual costs.

Based for price fixing: The prices are fixed in advance and hence the only variation basis is the standard cost be reduced by joint efforts.

Concept of Standard Costing

Standard costing is a technique used for the purpose of determining standard cost and their comparison with the actual costs to find out the causes of difference between the 3 two so that remedial action may be taken immediately.

The Chartered Institute of Management Accountants, London, defines standard costing as “the preparation of standard costs and applying them to measure the variations from actual costs and analysing the causes of variations with a view to maintain maximum efficiency in production”.

Thus, standard costing is a technique of cost accounting which compares the ‘standard cost’ of each product or service, with the actual cost, to determine the efficiency of the operation. When actual costs differ from standards the difference is called variance and when the size of the variance is significant a detailed investigation will be made to determine the causes of variance, so that remedial action will be taken immediately. Thus, standard costing involves the following steps:

1. Setting standard costs for different elements of costs
2. Recording of actual costs
3. Comparing between standard costs and actual costs to determine the variances
4. Analysing the variances to know the causes thereof, and
5. Reporting the analysis of variances to management for taking appropriate actions wherever necessary.

Objectives of Standard Costing:

1. Cost Control: The most important objective of standard cost is to help the management in cost control. It can be used as a yardstick against which actual costs can 4 be compared to measure efficiency. The management can make comparison of actual costs with the standard costs at periodic intervals and take corrective action to maintain control over costs.

2. Management by Exception: The second objective of standard cost is to help the management in exercising control over the costs through the principle of exception. Standard cost helps to prescribe standards and the attention of the management is drawn only when the actual performance is deviated from the prescribed standards. It concentrates its attention on variations only.

3. Develops Cost Conscious Attitude: Another objective of standard cost is to make the entire organisation cost conscious. It makes the employees to recognise the importance of efficient operations so that costs can be reduced by joint efforts.

4. Fixation of Prices: To help the management in formulating production policy and helps in fixing the price quotations as well as in submitting tenders of various products. This can be done with accuracy with standard cost than the actual costs. It also helps in formulating production policies. Standard costs removes the reflection of abnormal price fluctuations in production planning.

5. Fixing Prices and Formulating Policies: Another object of standard cost is to help the management in determining prices and formulating production policies. It also helps the management in the areas of profit planning, product-pricing and inventory pricing etc.

6. Management Planning: Budget planning is undertaken by the management at different levels at periodic intervals to maximise the profit through different product mixes. For this purpose it is more convenient using standard costing than actual costs because it is done on scientific and rational manner by taking into account all technical aspects.

Types of Standards:

The standard is the level of attainment accepted by management as the basis upon which standard costs are determined. The standards are classified mainly into four types. They are:

- i. **Ideal Standard:**
 - set up under ideal conditions.
 - The ideal conditions may be maximum output and sales, best possible prices for materials, most satisfactory rates for labour and overhead costs.
 - As these conditions do not continue to remain ideal, this standard is of little practical value.
 - It does provide a target or incentive for employees, but is usually unattainable in practice.

- ii. **Expected Standard:**
 - This is the standard which is actually expected to be achieved in the budget period, based on current conditions.
 - The standards are set on expected performance after allowing a reasonable allowance for unavoidable losses and lapses from perfect efficiency.
 - Standards are normally set on short term basis and requires frequent revision.
 - This standard is more realistic than ideal standard.

iii. **Normal Standard:**

- based on the average performance of the past after taking into account the fluctuations caused by seasonal and cyclical changes.
- It should be attainable and provides a challenge to the staff.

iv. **Basic Standard:**

- This is the level fixed in relation to a base year.
- The principle used in setting the basic standard is similar to that used in statistics when calculating an index number.
The basic standard is established for a long period and is not adjusted to the present conditions. It is just like an index number against which subsequent price changes can be measured. Basic standard enables to measure the changes in cost.
- It serves as a tool for cost control purpose because the standard is not revised for a long period.
- it cannot be used as a yard stick for measuring efficiency.

Advantages of Standard Costing:

1. Proper Planning: It helps to apply the principle of “Management by exception”. That is, the management need not worry over those activities which proceed in tandem plans. It is only on the issues of exceptions that they have to concentrate.

2. Efficient Cost Control: Standard Costing is a tool for the management to gain reduction in the cost and control over it. Under this technique, differences are analyzed and responsibilities are determined.

3. Motivational Factor: Labour efficiency is promoted and they are destined to be cost conscious. Standards provide incentives and motivation to work with greater effort. This increases efficiency and productivity.

4. Comparison of Forecasting and Outcome: A target of efficiency is set for the employees and the cost consciousness is stimulated. Since the process of standard costing allow an appraisal to be made of personnel, machines and method of working, current inefficiencies come to the notice and get eliminated.

5. Inventory Control: Standard costing facilitates inventory control and simplifies inventory valuations. This ensures uniform pricing of stocks in the form of raw materials, work-in-progress and finished goods.

6. Economical System: Standard costing system is economical system from the viewpoint that it does not require detailed records. It also des not require a big staff. It results in the reduction in paper work in accounting and needs very few records. Thus, there is saving of time as well as money.

7. Helpful in Budgeting: Budgets are prepared on the basis of standard costing. Standards which are set up in respect of materials, labour and overheads, are helpful in preparing various budgets. For example, flexible budget, sales budget, etc.

8. Helps Formulate Policies: This technique is a valuable aid to the management in determining prices and formulating production policies. Standard costing equips cost estimates while planning the production of new products.

9. Helps Distinguish Activities: Standard costing helps in distinguishing between skilled and unskilled activities. So the skilled worker only gives pays attention to improving the activities of the unskilled workers.

10. Eliminates Wastage: Through fixing standard, certain waste such as material wastage, idle time, lost machine hours, etc. are reduced

Limitations of Standard Costing:

1. Costly System: Because the Standard Costing requires highly skillful and competent personnel, it becomes a costly system too. For the same experts are paid high remuneration.

2. Difficulties in Fixation of Standard: It is always difficult to determine precise standard costs in a given situation which will coincide with actual cost when operations are over. Standard cost are determined partly by the past experience and partly by the cost projections based on advanced statistical techniques. Thus, uncertainties revolve around standards.

3. Constraint for Service Industry: Standard costing is applied for planning and controlling manufacturing costs. Thus, it cannot be applied in a service industry.

4. Consistency of Standard: because the standards of marginal costing fluctuate and vary time to time, it is difficult to always sustain and continue the same standards.

5. Unsuitable for Non-standardised Products: Standard costing is expensive and unsuitable for job manufacturing industries as they manufacture non standardized products such as catering, tailoring, printing, etc.

6. Relatively Fixed Standards: A business may not be able to keep standards up-to-date. In other words, a business may not revise standards to keep pace with the frequent changes in manufacturing conditions. Firms may avoid revising standards as it is a costly affair.

7. Difficulties for Small Industries: Establishment of standards and their implementation involve initial high costs. Standards have to be revised and new standards be fixed involving larger costs. Thus, small firms find it expensive to operate standard costing system. This system is not fit for each type of industries.

8. Discouragement for Workers: Sometimes the employees and workers are discouraged when the standards are fixed at a high level. The unreal high standards may adverse by effect the morale of workers rather than working as an incentive for better efficiency.

9. Inaccurate Diverse Results: Inaccurate and unreliable standards cause misleading results and thus may not enjoy the confidence of the users of this system

Difference between Standard Costing and Budgeting:

	Standard costing		Budgeting
1.	Standard costing is based on technical information and is fixed scientifically.	1.	It is based on standard cost, historical costs and estimates.
2.	Standard costs are used mainly for the manufacturing function and also for marketing and administration functions. Therefore, it does not require functional coordination.	2.	Budgets are prepared for different functional departments such as sales, purchase, production, finance, personnel department. Therefore, it requires functional coordination.
3.	Standard costs emphasises the cost levels which should be reduced	3.	Budgets emphasises cost levels which should not be exceeded.
4.	In standard costing variances are usually revealed through accounts.	4.	In Budgeting, variances are not revealed through accounts and control is exercised by putting budgeted figures and actuals side by side.
5.	In standard costing, a detailed analysis is needed in case of variances.	5.	No further analysis is required if costs are within the budget.
6.	Standard costing sets realistic yardsticks and therefore, it is more useful for controlling and reducing costs.	6.	Budgets generally set maximum limits of expenditure without considering the effectiveness of expenditure.
7.	Standard cost is revised only when there is a change in the basic assumptions and basis.	7.	Budgeting is done before the beginning of each accounting period.
8.	Standard costs are based on the basis of standards set by management.	8.	Budgets are set on the basis of present level of efficiency.

Process of Standard Costing



Variance Analysis

After the standard costs have been set, the next step is to ascertain the actual cost of each element and compare them with the standard already set.

The difference of actual from the standard is Variance. In standard costing, Variance means the difference between a standard cost and the comparable actual cost incurred during a period.

Variance analysis is the process of analysing variances by sub-dividing the total variance in such a way that management can assign responsibility for any off-standard performance. Thus, variance analysis means the measurement of the deviation of actual performance from the

Variance may be favourable or unfavourable depending upon whether the actual cost is less or more than the standard cost.

When-

Actual cost < Standard cost - 'favorable' –

- increases the profit and it is a sign of efficiency of the organisation

Actual cost > Standard cost - 'unfavorable' or 'adverse' variance.

- loss of the business and it is a sign of inefficiency of the organisation.

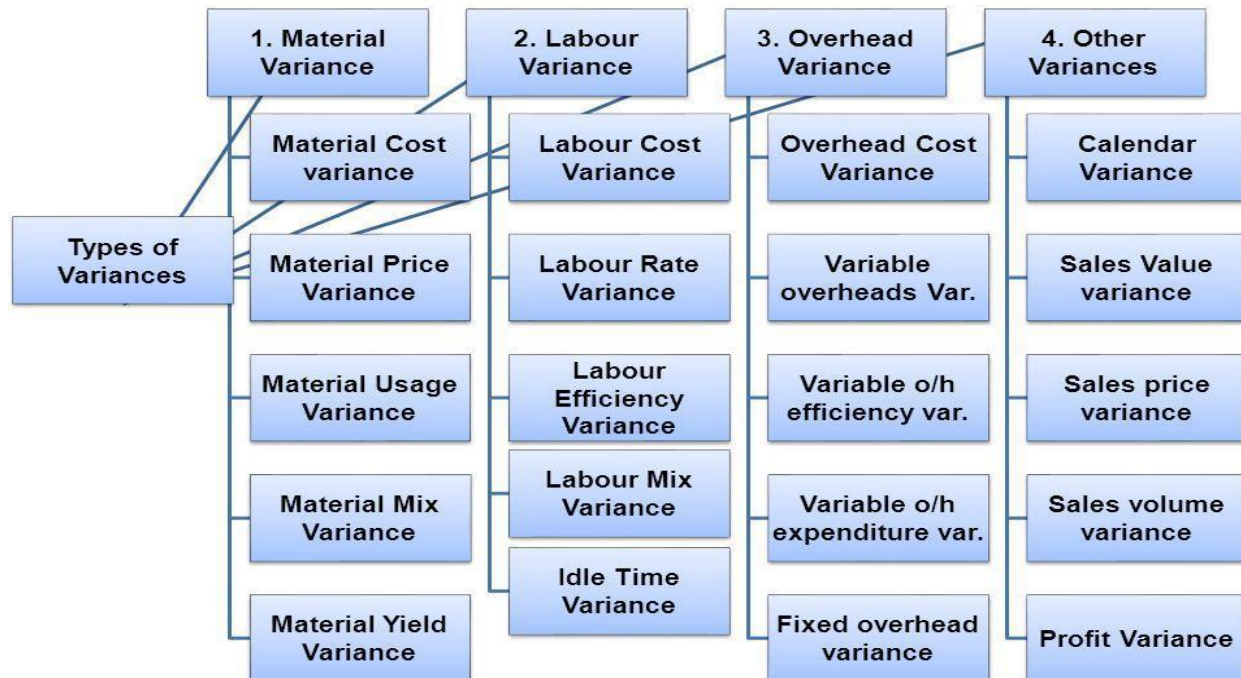
Controllable and Uncontrollable Variance:

Controllable Costs – When excessive use of materials or labour hours than the standards takes place and can make a particular person or department responsible .

Eg: Materials, labour , overheads

Uncontrollable Costs - When the variations are due to the factors beyond the control of the concerned person or department

Eg: The rise in prices of materials, increase in wage rates, Govt. restrictions etc., are the examples of uncontrollable variance. These factors are not within the control of the management and the responsibility of the variance cannot be assigned to any particular person or division.



Formulae:

1. Marginal Cost Equation:

$\text{Sales} = \text{Variable Cost} + \text{Fixed Cost} \pm \text{Profit/loss}$
 $*\text{Sales} - \text{Variable cost} = \text{Fixed Cost} \pm \text{Profit /loss}$
 $\text{Sales} - \text{Variable cost} = \text{Contribution}$
 Where $\text{Contribution} = \text{Fixed cost} + \text{Profit}$

Marginal Cost statement:

Particulars	Amount
Sales	xxx
Less: Variable Costs	(xx)
Contribution	xx
Less: Fixed Costs	(x)
Profit /loss	X

Very useful to find any of the four factors if any of three of these factors known.

1. Contribution:

$C = \text{Selling price} - \text{Marginal cost}$

$$C = \text{Fixed cost} + \text{Profit}$$

$$\text{Profit /loss} = \text{Contribution} - \text{Fixed Cost}$$

Contribution is very important in marginal costing as it helps in finding out the profitability of a product, department, better product mix, for profit planning and to maximize the profits of the concern.

2. Profit/Volume Ratio (P/V Ratio):

$$\begin{aligned} \text{P/V R} &= \frac{\text{Contribution}}{\text{Sales}} && \text{or} && \frac{C}{S} \\ \text{P/V R} &= \frac{\text{Fixed cost} + \text{Profit}}{\text{Sales}} && \text{or} && \frac{FC+P}{S} \\ \text{P/V R} &= \frac{\text{Sales} - \text{Variable Cost}}{\text{Sales}} && \text{or} && \frac{S-VC}{S} \\ \text{P/V R} &= \frac{\text{Change in Profits}}{\text{Change in Sales}} \end{aligned}$$

*PV Ratio is important to study the profitability of operations of the organization *establishes the relationship between contribution and sales.

* Higher the PV Ratio more will be the profit and vice versa.

* PV Ratio can be increased by :

- a. increasing the selling price per unit
- b. reducing direct and variable costs
- c. switching the production to more profitable products or
increasing the proportion of sales of products with higher PV ratio.

Uses of PV Ration in calculation of

- a. $\text{BEP} = \frac{FC}{\text{PV Ratio}}$
- b. $\text{Variable cost} = \text{Sales} (1 - \text{PV Ratio})$
- c. $\text{Profit} = (\text{Sales} * \text{PV Ratio}) - \text{Fixed Cost}$
- d. $\text{Fixed Cost} = (\text{Sales} * \text{PV Ratio}) - \text{Profit}$
- e. $\text{Margin of Safety} = \frac{\text{Profit}}{\text{PV Ratio}}$
- f. $\text{Desired Sales} = \frac{(\text{Fixed Costs} + \text{Desired Profit})}{\text{PV Ratio}}$

1. Break Even Point (BEP):

$$\text{BEP (in units)} = \frac{\text{Total Fixed Costs}}{(\text{Selling Price per unit} - \text{Marginal cost per unit})}$$

$$\text{BEP (in units)} = \frac{\text{Total Fixed Costs}}{\text{Contribution per unit}}$$

$$\text{BEP (sales Value)} = \frac{\text{Fixed Cost}}{\text{PV Ratio}}$$

$$\text{BEP (sv)} = S - V = F + \text{Nil} \quad (\text{as at BEP no profit or loss})$$

1. Margin of Safety:

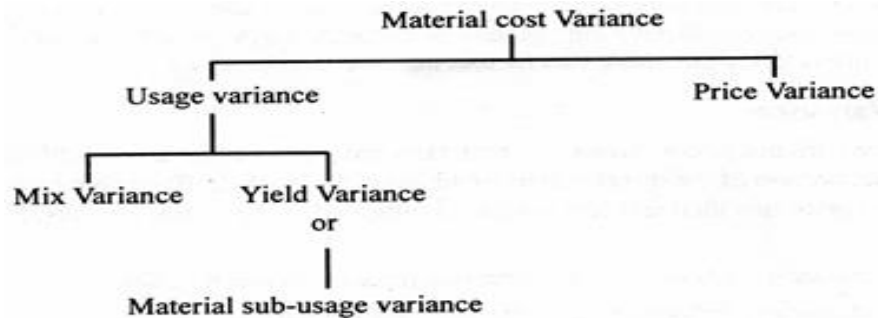
$$M/S = \text{Actual Sales} - \text{Break Even Sales}$$

$$M/S = \frac{\text{Profit}}{\text{PV Ratio}}$$

M/S in units = Profit ÷ Contribution per unit

Variance Analysis Formulae

Material Variances:



Material Cost Variances (MCV): It is the difference between the standard cost of material specified for the output achieved and the actual cost of direct materials used.

$$\begin{aligned} \text{MCV} &= (\text{Std. Quantity} \times \text{Std. Price}) - (\text{Actual Quantity} \times \text{Actual Price}) \\ &= (\text{SQ} \times \text{SP}) - (\text{AQ} \times \text{AP}) \end{aligned}$$

(2) **Material Price Variances (MPV):** It is that portion of the material cost variance which is due to the difference between the standard price specified and the actual price paid.

$$\begin{aligned} \text{MPV} &= \text{Actual Quantity} (\text{Std. Price} - \text{Actual Price}) \\ &= \text{AQ} (\text{SP} - \text{AP}) \text{ Where, Price} = \text{Rate} \end{aligned}$$

(3) **Material Usage Variances (MUV):** Material usage variance is a part of Direct Material Cost Variance. MUV is determined by difference found between the standard quantity and the use of actual quantity. Later, the difference found is multiplied by the standard price.

$$\begin{aligned} \text{MUV} &= \text{Standard Price} (\text{Std. Quantity} - \text{Actual Quantity}) \\ &= \text{SP} (\text{SQ} - \text{AQ}) \end{aligned}$$

(4) **Material Mix Variances (MMV):** It is that portion of direct material usage variance which is the difference between the actual quantities of elements used in a mixture at a standard price and the total quantity of elements used at the weighted average price per unit of element as shown by the standard cost sheet.

$$\begin{aligned} \text{MMV} &= \text{Standard Price} (\text{Std. Mix} - \text{Actual Mix}) \\ &= \text{SP} (\text{SM} - \text{AM}) \\ \text{SM} &= \frac{\text{Total weight of actual quantity}}{\text{Total weight of standard quantity}} \times \text{Std. Quantity} \end{aligned}$$

Note: When the actual weight of quantity and the standard weight of quantity differ from each other, this formula is used to find new quantity.

(5) **Material Yield Variances (MYV):** This is "that portion of the direct materials usage variances which is due to the difference between standard yield specified and the actual yield obtained.

