RATIO ANALYSIS

Ratio is an arithmetical expression of relationship between two interdependent or related items.
Ratio when calculated based on accounting information are called ***Accounting ratios***.

Definition of Ratio Analysis:
Ratio analysis is a quantitative method of gaining insight into a company's liquidity, operational efficiency, and profitability by comparing information contained in its financial statements.

Importance /Advantages of ratio Analysis:
Financial statements i.e., Profit and Loss account and Balance Sheet prepared at the end of the year do not always convey to the reader the real profitability and financial health of the business. They contain various facts and figures and it is for the reader to conclude, whether these facts indicate a good or bad managerial performance. Ratio analysis is the most important tool of analyzing these financial statements. It helps the reader in giving tongue to the mute heaps of figures given in financial statements. The figures then speak of liquidity, solvency, profitability etc. of the business enterprise. Some important objects and advantages derived by a firm using accounting ratios are: -

1) Helpful in Analysis of Financial Statements:
Ratio analysis is an extremely device for analyzing the financial statements. It helps the bankers, creditors, investors, shareholders etc. in acquiring enough knowledge about the profitability and financial health of the business. In the light of the knowledge so acquired by them, they can take necessary decisions about their relationships with the concern.

2) Simplification of Accounting Data:
Accounting ratio simplifies and summarizes a long array of accounting data and makes them understandable. It discloses the relationship between two such figures, which have a cause and effect relationship with each other.

3) Helpful in comparative study:-
With the help of ratio analysis comparison of profitability and financial soundness can be made between one firm and another in the same industry. Similarly, comparison of current year figures can also be made with those of previous years with the help of ratio analysis.

4) Helpful in forecasting:-
Accounting ratios are very helpful in business planning/forecasting and budgeting. The trend of Ratios is analyzed and used for future planning

5) Estimate about the trend of the business:-
If accounting ratios are prepared for several years, they will reveal the trend of costs, sales, profits and other important facts.

5) Effective Control:-
Ratio analysis discloses the liquidity, solvency and profitability of the business enterprise. Such information enables management to assess the changes that have taken place over a period in the financial activities of the business. It helps them in discharging their managerial functions e.g., planning, organizing, directing, communicating and controlling more effectively.

Limitations of Ratio Analysis

1) False accounting data gives false ratios:-

Accounting ratios are calculated based on given data given in profit and loss account and balance sheet. Therefore, they will be only as correct as the accounting data on which they are based. For example, if the closing stock is over-valued, not only the profitability will be overstated but also the financial position will appear to be better. Therefore, unless the profit and loss account and balance sheet are reliable, the ratios based on them will not be reliable. There are certain limitations of financial statements as such, the ratios calculated based on such financial statements will also have the same limitations.

2) Ignorance of Qualitative aspects:

Ratio Analysis is bases on Quantitively aspects only. It totally ignores the qualitative aspects which are also important in decision making.

3) Limited use of a Single Ratio

The analyst should not merely rely on a single ratio. He should study several connected ratios before reaching a conclusion. For example, the Current Ratio of a firm may be quite satisfactory, whereas the Quick Ratio may be unsatisfactory.

4) Window Dressing:-

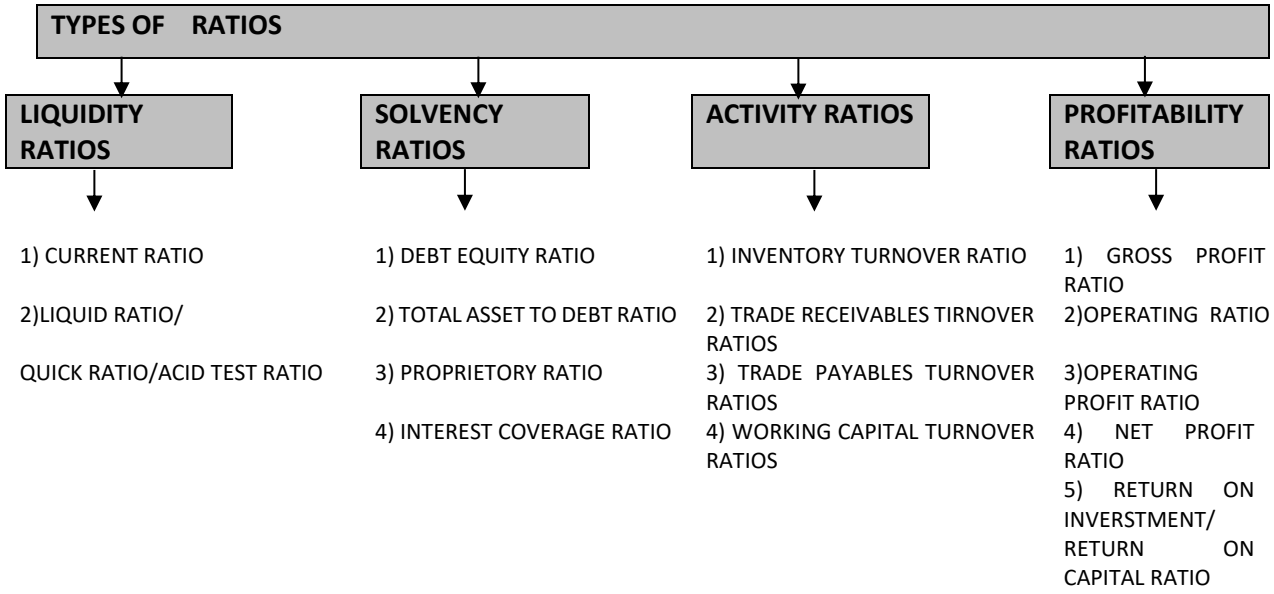
Some companies to cover up their bad financial position resort to window dressing *i.e.,* showing a better position than the one, which really exists. They change their balance sheet in such a way that the important facts and truth may be concealed.

5)Lack of proper standards:

Circumstances differ from firm to firm hence no single standard ratio can be fixed for all the firms against which the actual ratio may be compared.

6) Personal Bias:

Personal Judgements play an important role in preparing and analyzing the financial statements. Different people interpret the same ratio in different ways.



LIQUIDITY RATIOS

- Evaluates the capability of the entity to meet its **short- term** liabilities/obligations.
- Higher ratio means better capacity to meet its current obligations and vice versa.

SOLVENCY RATIOS

- Evaluates the capability of the entity to meet its **Long- term** liabilities/obligations.
- This ratio is most often used by prospective lenders when evaluating a company's creditworthiness.
- A higher ratio percentage result indicates a company's increased ability to cover its liabilities over the long term.

ACTIVITY RATIOS

- Measures the efficiency with which assets are being utilized or managed or how well the resources have been used by the entity
- Calculated based on COGS/Sales
- Higher ratio means better use of capital or resources which in turn means better profitability.

PROFITABILITY RATIOS

- A measure of profitability, which is a way to measure a company's performance
- Measures management overall effectiveness as shown by returns generated on sales and investments.
- These ratios are helpful for the management to take remedial measures if there is a declining trend.

Name of the Ratio		
1.LIQUIDITY RATIOS	**SIGNIFICANCE/IMPORTANCE**	**FORMULAS**
Current ratio	➢ Evaluates the capability of the entity to meet its **short- term** liabilities/obligations. ➢ Higher ratio means better capacity to meet its current obligations and vice versa. **If the current ratio is very high, it means the funds are idle. ** Ideal ratio-***2:1***	**Current Assets = …… : …….** **Current Liabilities** C.A= Debtors- Provision on Debtors+ B/R+ Marketable securities+ Cash+ Accrued Incomes+ Stock + Prepaid Expenses C.L.= Trade Creditors+ B/P+ O/s Exp+ Bank O/D+ Provision for Tax
Quick Ratio	➢ Stringent measure of Liquidity. ➢ Based on CA which are very Liquid (easily convertible into cash & cash Equivalents) ➢ It is an indicator of short-term debt paying capacity of the entity and thus, is a better indicator of Liquidity compared to Current ratio. ** Ideal ratio-***1:1***	**Liquid *A*ssets = …… : …….** **Current Liabilities** Notes: 1. Quick Assets= Current Assets-Stock-Prepaid Expenses. *** Stock & Prepaid exps. Are excluded from CA as it takes time for inventory to be converted into cash and prepaid exps are already paid.* 2. Working Capital= Current Assets- Current Liabilities

2.SOLVENCY RATIOS		
Debt-equity ratio	➢ Debt-equity ratio establishes a relationship between Long term debt and Share holders' fund ➢ Assess long term financial soundness of the Entity ***Lower the Debt-Equity Ratio, higher the degree of protection enjoyed by lenders* .	**Long Term Debts = …… : …….** **Shareholders' fund** Note: Shareholder's Funds can be calculated as follows: 1. Equity Share Capital+ Preference Share Capital+ Reserves and Surplus- Fictitious Assets 2. Equity Shareholder's Funds+ Preference Share Capital

		3. Capital Employed- Long Term Debt 4. Net Fixed Assets+ Investment+ Working Capital- Long Term Debt 5. Net Fixed Assets+ Investment+ Current Assets- Current Liabilities- Long Term Debt 6. Total Assets- Total Debt 7. Long Term Debt: Long Term borrowings & Long-term provisions .
Total Assets Debt Ratio	➢ Total assets to debt ratio establish a relationship between Total assets and total long-term debt. ➢ Measures safety margin available to the lenders of the Long-term debts. ***** Ideal Ratio= 2:1***	**Total Assets** / **Long Term Debt** = …… : ……
Proprietary Ratio	➢ Shows the proportion of total assets of a company which are financed by proprietors' funds. ➢ It helps to determine the financial strength of a company.	**Proprietor's Fund** / **Total Assets** ***100= %** Note: Proprietor's Funds = Shareholder's Funds (share capital + Reserves)
Interest Coverage Ratios Or Time Interest Earned ratio"	> measures the debt servicing capacity of a firm in so far as fixed interest on long-term loan is concerned > Higher ratio is considered better for the lenders as it shows Higher margin to meet interest cost.	Profit Before Interest and tax / Interest on Long Term Debts = Times Note: PBIT- PAT+ Provision for Tax+ Interest (On Deb.+ loans)

3.ACTIVITY RATIOS		
Stock Turnover Ratio	> Measures how fast inventory is converting into sales.	**Cost Of Goods Sold** / **Average Stock** **= Times**

	> The high ratio indicates efficiency and the low ratio indicates inefficiency of stock management.	Notes: 1. Average Stock = $\frac{Opening\ Stock + Closing\ Stock}{2}$ 2. Cost of Goods Sold = Net sales- Gross Profit OR COGS= Opening Stock+ Purchases+ Direct Expenses- Closing Stock
"Debtors Turnover Ratio Or Trade Receivables Turnover Ratios"	> Measure how quickly Trade Receivables are converted into cash and cash equivalents. > High Ratio indicates that debts are being collected more quickly and low ratio indicates inefficiency in collection or increased collection period. > Increase in this ratio indicates the excessive blockage of funds with debtors, which increases the chances of bad debts.	$\frac{\text{Net Credit sales}}{\text{Average Debtors}}$ = Times Notes: 1. Average Debtors = $\frac{Op.Drs.+Op.B/R+\ Cl.Drs.+Cl.B/R}{2}$ 2. Net Credit Sales = Gross Credit Sales- Sales Return Or, = Net Sales- Cash Sales
Average Debt Collection Period	> Provides and approximation of the average time period taken to collect cash or cash equivalents from Debtors.	$\frac{\text{12 months/52 Weeks/365days}}{\text{Debtors Turnover Ratio}}$ = period Or $\frac{Average\ Debtors}{Average\ Monthly\ /\ Weekly/\ Daily\ Sales}$ = Period Note: Average Sales = $\frac{Net\ Credit\ Sales}{12\ months/52\ weeks/365\ days}$
Creditor's Turnover Ratio	➢ Shows the number of times the Creditors are turned over in relation to purchases. ➢ High Ratio indicates that Creditors are being paid more quickly and low ratio indicates inefficiency in	**$\frac{\text{Net Credit Purchase}}{\text{Average Creditors}}$ = Times** Notes:

	payments or increased payment period.	$$\text{1. Average Creditors} = \frac{Op.Crs.+Op.B/P+ Cl.Crs.+Cl.B/P}{2}$$ 2. Net Credit Purchases = Gross Credit Purchases- Purchase Returns
Average Debt Payment Period		**12 months/52 Weeks/365days** / **Creditors Turnover Ratio** = **Period** **Or** **Average Creditors** / **Average Monthly/Weekly/Daily Purchases** Note: Average Purchases = $\frac{Net\ Credit\ \text{Purchases}}{12\ months/52\ weeks/365\ days}$
Working Capital Turnover Ratio	➢ Ascertain whether Working Capital has been effectively used in generating revenue. ➢ Shows the number of times WC has been employed in the operation activities of the business.	**Net sales** / **Net Working capital** = **Times** Note: Working Capital= Current Assets- Current Liabilities

4.PROFITABILITY RATIOS		
(I) In Relation to Sales		
Gross Profit Ratio	➢ Indicates the Relationship between Gross Profit and Net sales.	**Gross Profit** / **Net sales** **X 100=…%** Note: Gross Profit= Net Sales- Cost of Goods Sold
Operating Ratio	➢ Helps to assess the operational efficiency of the business. ➢ measures proportion of COGS and Operating	**Operating Cost** / **Net Sales** **X 100=…%** Note: Operating Cost= Cost of Goods Sold+ Operating Expenses

	➢ Expenses to Revenue from Operations. ➢ Lower ratio is better as it leaves higher profit for no- Operating expenses, creation of reserves and payments of Dividends.	
Operating Profit Ratio	➢ Measures Operational efficiency of the business.	**Operating Profit** / **Net Sales** **X 100=…%** Note: Operating Profit= Net Sales- Operating Costs
Net Profit Ratio	> Indicator of the overall efficiency of the business.	**Net Profit** / **Net S ales** **x 100=…%** Notes: 1. Net Profit= Net Sales- Cost Of Goods Sold- Operating Expenses- Non Operating Expenses+ Non-Operating Incomes 2. Net Profit= Gross Profit- Operating Expenses- Non-Operating Expenses+ Non-Operating Incomes 3. Net Profit= Operating Profit- Non-Operating Expenses+ Non-Operating incomes
II. In Relation to Investment		
"Return on Investment (ROI) OR Return on Capital Employed"	> Assess overall performance of the Entity. It Measures how efficiently the resources are used by the business.	Net Profit before Interest and Tax / Capital Employed X 100=…% Notes: 1. Capital Employed= Shareholder's Funds+ Long term debts OR = Net Fixed Assets+ Long Term Investment+ Net Working Capital 2. Non-Operating Assets do not form the part of Capital Employed 3. Income from Non-Operating Assets should be excluded from the Net Profit Before Interest and Tax