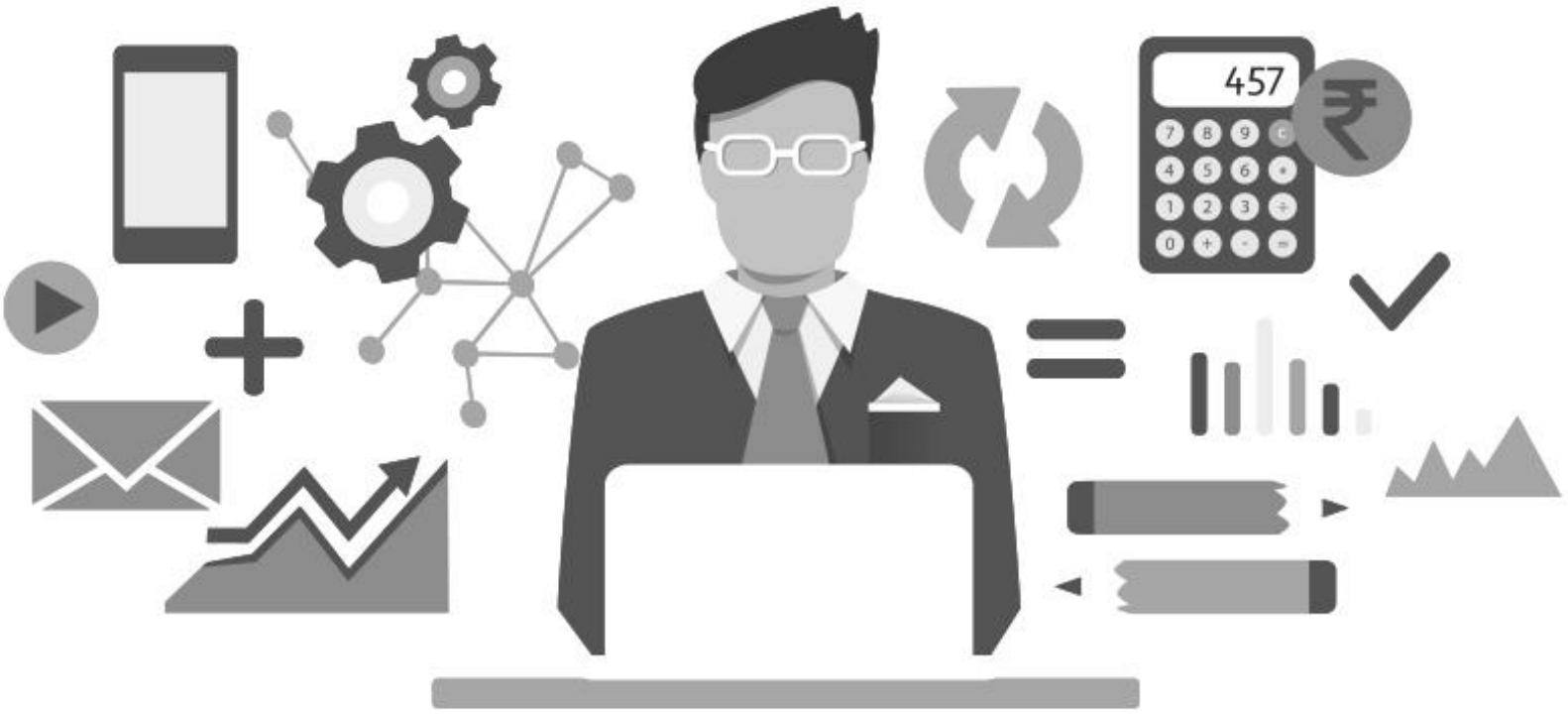
ACCOUNTANCY



ACCOUNTING RATIOS

Introduction to Accounting Ratio and Ratio Analysis

Meaning of Ratio, Accounting Ratio and Understanding Ratio Analysis:

- **Meaning of Ratio:** It is an arithmetical expression of relationship between two interdependent or related items.

- **Meaning of Accounting Ratio:**
  - **i.** It is a ratio which is calculated on the basis of accounting information.
  - **ii.** It can be expressed as an arithmetical relationship between two accounting variables.
  - **iii.** It is a relationship that exists between figures shown in a Balance Sheet, Statement of Profit and Loss or any other statements or reports prepared by the organisation.

- **Forms of Expressing Ratios:** Following are the various forms of expressing the accounting ratio:
  - **i. Pure:** As per this form, ratio is expressed as a quotient.
  - **ii. Percentage:** As per this form, ratio is expressed as a percentage.
  - **iii. Times:** As per this form, ratio is expressed in number of times a particular figure is when compared to another figure.
  - **iv. Fraction:** As per this form, ratio is expressed in fraction.

- **Meaning of Ratio Analysis:**
  - **i.** It is a study of relationship among various financial factors in a business.
  - **ii.** It is a technique of analysing the financial statements with the help of accounting ratio.
  - **iii.** It is a process of determining and interpreting relationships between items of financial statements to provide a meaningful understanding of the financial performance and position of an enterprise.

- **Objectives of Ratio Analysis:**
  - **i.** It simplifies understanding of financial information presented in the financial statement.
  - **ii.** It helps in determining short-term and long-term solvency of the business.
  - **iii.** It helps in assessing the operating efficiency of the business.
  - **iv.** It analyses profitability of the business.
  - **v.** It helps in comparative analysis which can be either intra-firm or inter firm comparisons.

- **Advantages of Ratio Analysis:**
  - **i. Tool for analysis of Financial Statements:** It helps the users of financial statements to analyse the financial position of an enterprise. Such users can be bankers, investors, creditors, etc. who are concerned about the performance of an enterprise.
  - **ii. Simplifies Accounting Data:** It simplifies understanding of accounting information presented in the financial statement. Calculation of ratios summarises briefly the results of detailed and complicated information.
  - **iii. Assessment of Operating Efficiency of Business:** Operating efficiency can be determined by assessing and evaluating liquidity, solvency and profitability of an enterprise. Calculation of ratios helps in determining and evaluating such aspects.

iv. **Assists in Forecasting:** Calculation, analysis and comparison of ratios helps in business planning and forecasting. This is because the trend of ratios being calculated acts as a guide for future planning.
v. **Identifies Weak Areas:** Calculation and analysis of various ratios help to identify and interpret the favourable and unfavourable ratios which can are used to identify the weak areas or unfavourable factors in the enterprise. Enterprise can then work upon such areas or factors to improve the performance.
vi. **Facilitates Inter-firm and Intra-firm Comparison:** When a firm compares its performance with that of other firms or with its industry standards in general, it is known as Inter-firm Comparison or Cross Sectional Analysis. On the other hand, if the performance of different units is belonging to the same firm is to be compared, it is known as Intra-firm Comparison. Accounting ratios are widely used for such comparisons.

- **Limitations of Ratio Analysis:**
  i. **Reliability of Ratios:** Since, ratios are calculated based on the financial information, if the information available is not correct ratios calculated using such information will also be incorrect. Therefore, such ratios are not completely reliable to make any future decisions for an enterprise.
  ii. **Only Quantitative Factors considered:** Calculation of ratios takes into consideration only quantitative factors and all the related qualitative factors are ignored, which may be important for future decision making of an enterprise.
  iii. **No Standard Ratio:** In order to determine whether a ratio is favourable or adverse, there should be a standard with which the ratio can be compared. However, there is no single standard against which the ratio can be compared.
  iv. **Non Comparable:** It is possible that different firms belonging to the same industry may follow different policies and procedures for the purpose of accounting. The amounts computed using such different policies and procedures will also be different. Therefore, ratios calculated by such firms will not be comparable as the information used in calculating such ratios by the different firms is not the same.
  v. **Price Level Changes Ignored:** It is necessary to understand that comparability of the ratios depends upon the change in the price levels. However, such change in price levels is not considered in accounting variables from which ratios are computed.
  vi. **Window Dressing:** If the accounts are manipulated in order to window dress the financial performance and position of the business, the information available for computing ratios will not be accurate. This will lead to incorrect ratios being computed which in turn will affect the decisions taken based on analysis of such incorrect ratios.
  vii. **Personal Bias:** Since, preparation of financial statements is highly influenced by personal judgments, accounting ratios computed based on such information is also not free from such limitation.

- **Types of Ratios:** Ratios are classified based on following aspects:
  i. **Liquidity (short-term solvency):** These are the ratios which show the ability of the enterprise to meet its short-term financial obligations. It includes:
     a. Current Ratio
     b. Quick Ratio
  ii. **Solvency (long-term solvency):** These are the ratios which assess the long-term financial position of the enterprise. They assess the ability to meet the long-term financial obligations of the enterprise. It includes:
     a. Debt to Equity Ratio
     b. Total Assets to Debt Ratio

c. Proprietary Ratio
d. Interest Coverage Ratio

iii. **Activity/Turnover:** These are the ratios which show how efficiently the enterprise resources are being used for the business operations. It includes:
   a. Inventory Turnover Ratio
   b. Trade Receivables Turnover Ratio
   c. Trade Payables Turnover Ratio
   d. Working Capital Turnover Ratio

iv. **Profitability:** These ratios show the profitability of the enterprise. It includes:
   a. Gross Profit Ratio
   b. Operating Ratio
   c. Operating Profit Ratio
   d. Net Profit Ratio
   e. Return on Investment

Liquidity (Short-term Solvency) Ratios

Meaning and Computation of Current Ratio:

- **Understanding Current Ratio:**
  a. It is a ratio which calculates the relationship between the current assets and current liabilities.
  b. It is a liquidity ratio that measures the ability of the enterprise to pay its short-term financial obligations i.e., current liabilities.
  c. It helps to identify whether the enterprise will be able to meet its short-term financial obligations when they become due for payment.
  d. It is expressed as a pure ratio.
  e. Formula: $\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$
  f. Ideal Ratio: 2 : 1. High Current Ratio means better liquidity but too high current ratio means poor operational efficiency.

- **Understanding Current Assets, Current Liabilities, Operating Cycle and Working Capital in computing current ratio:**
  a. **Current Assets:** These are the assets that are either in the form of Cash and Cash Equivalents or can be converted into Cash and Cash Equivalents within 12 months from the date of Balance Sheet or within the period of operating cycle. It includes the following items:
     - Short-term loans and advances,
     - Current Investments,
     - Inventories (excluding Loose Tools and Stores and Spares),
     - Trade Receivables (bills receivable and sundry debtors less provision for doubtful debts),
     - Cash and Cash Equivalents (cash in hand, cash at bank, cheques/drafts in hand, etc.)
     - Other Current Assets (prepaid expenses, interest receivable, etc.)

  b. **Current Liabilities:** These are the liabilities that are repayable within 12 months from the date of Balance Sheet or within the period of operating cycle. It includes the following items:
     - Short-term borrowings,
     - Short-term provisions,

- Trade Payables (bills payable and sundry creditors),
- Other Current Liabilities (current maturities of long term debts, interest accrued but not due, interest accrued and due, outstanding expenses, unclaimed dividend, calls-in-advance, etc.)

c. **Operating Cycle:** It is the time between the acquisition of assets for processing and their realisation into Cash and Cash Equivalents. In case the normal operating cycle cannot be identified, it is assumed to be a period of 12 months.

d. **Working Capital:** Where working capital is given, value of current assets and current liabilities can be ascertained using the given current ratio. Working Capital is the excess of Current Assets over Current Liabilities which is expressed as follows:

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}\ ;\ \text{Or}$$

$$\text{Current Assets} = \text{Working Capital} + \text{Current Liabilities}\ ;\ \text{Or}$$

$$\text{Current Liabilities} = \text{Current Assets} - \text{Working Capital}$$

- **Steps to be taken to determine the effect of a transaction on Current Ratio:**

Step 1: Amounts of Current Assets and Current Liabilities are to be assumed.

Step 2: Consider the effects of a transaction and put it in the assumed amounts of Current Assets and Current Liabilities. After accommodating such effect in the assumed amounts, new amounts of Current Assets and Current Liabilities are to be calculated.

Step 3: Using these new amounts new ratio is to be calculated. Such new/revised ratio is to be compared with old ratio to determine its effect on the Current Ratio, i.e., increase, decrease or no change in the ratio.

Meaning and Computation of Quick or Acid Test Ratio:

- **Understanding Liquid or Quick or Acid Test Ratio:**

a. It is a liquidity ratio which measures the ability of the enterprise to meet its short-term financial obligations, i.e., Current Liabilities.

b. It is a relationship of liquid assets with current liabilities.

c. It is an indicator of short-term debt paying capacity of an enterprise and is therefore, a better indicator of liquidity.

d. A high Liquid Ratio compared to Current Ratio may indicate understocking while a low Liquid Ratio indicates overstocking.

e. It is expressed as a pure ratio.

f. Formula:

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

g. Standard Ratio: 1 : 1.

- **Understanding Liquid Assets and Current Liabilities for Quick Ratio:**
  - **Liquid Assets:** These are those assets that are either in the form of Cash and Cash Equivalents or can be converted into Cash and Cash Equivalent in a very short time. These are considered as the most liquid assets. Such assets are shown under the head 'Current Assets' in the Balance Sheet and therefore includes:
    - Short-term Loans and Advances,
    - Current Investment,
    - Trade Receivables,
    - Cash and Cash Equivalents,

- Other Current Assets except Prepaid Expenses.
  *Inventories and Prepaid expenses are not included in Liquid assets because inventories takes time to convert in cash and cash equivalents and prepaid expenses are something that has already been paid in advance and cannot be converted into cash.

- **Current Liabilities:** These are the liabilities that are repayable within 12 months from the date of Balance Sheet or within the period of operating cycle. It includes the following items:
  - Short-term borrowings,
  - Short-term provisions,
  - Trade Payables (bills payable and sundry creditors),
  - Other Current Liabilities (current maturities of long term debts, interest accrued but not due, interest accrued and due, outstanding expenses, unclaimed dividend, calls-in-advance, etc.)

- **Difference between Current Ratio and Quick Ratio:**

Sr. no.	Basis	Current Ratio	Quick Ratio
1	**Relationship**	It is a relationship between the Current Assets and Current Liabilities.	It is a relationship between the Liquid Assets and Current Liabilities.
2	**Assessment**	It assesses the ability to meet Current Liabilities within a period of 12 months from the date of Balance Sheet or within the period of Operating Cycle.	It assesses the ability to meet Current Liabilities immediately.
3	**Ideal Ratio**	Ideal Current Ratio is 2:1.	Ideal Quick Ratio is 1:1.
4	**Measure**	In order to measure the short-term financial position, Current Ratio is not considered better than the Quick Ratio.	Considered better than Current Ratio.

Solvency (Long-term Solvency) Ratios

Meaning and Computation of Debt-to-Equity Ratio:

- **Understanding Debt-to Equity Ratio:**
  a. It is a relationship between long-term external equities, i.e., external debts (includes long-term borrowings and long-term provisions) and internal equities (Shareholders' Funds) of the enterprise.
  b. It measures the proportion of external funds and shareholder's invested in the company.
  c. It assesses long-term financial soundness of the enterprise and indicates the extent to which the enterprise depends on borrowed funds for its business.
  d. It is expressed as a Pure Ratio.
  e. Formula:

$$\text{Debt to Equity Ratio} = \frac{\text{Debt}}{\text{Equity (Shareholder's Funds)}}$$

- **Understanding Long-term Borrowings and Long-term Provisions for computing Debt-Equity Ratio:**
  a. **Long term Borrowings:**
     - It is shown as long-term borrowings under Non-current Liabilities if they are payable after 12 months from the date of Balance Sheet or after the operating cycle period.
     - If an amount of borrowings out of Long Term Borrowings is payable within 12 months from the date of Balance Sheet or operating cycle period, then such amount is shown under 'Current Maturities of Long Term Debts' under Current Liabilities and will not be considered while calculating Debt to Equity ratio.
  b. **Long term Provisions:** It is classified or shown as Non-current liabilities if they are payable after 12 months from the date of Balance Sheet or after the period of Operating Cycle. They are to be considered while computing Debt to Equity ratio.

Debt = Long-term Borrowings + Long-term Provisions
Or
= Total Debt – Current Liabilities
Or
= Capital Employed – Equity*

Equity = Share Capital + Reserves & Surplus
= Non-Current Assets#
+ Working Capital$
– Non Current Liabilities (Long-term Borr. + Long-term Prov.)
Or
= Total Assets – Total Debt

*Capital Employed = Debt + Equity or Non-Current Assets + Working Capital – Fictitious Assets
#Non-Current Assets = Tangible Assets + Intangible Assets + Non-Current Trade Investments + Long-term Loans and Advances.
$Working Capital = Current Assets – Current Liabilities

Negative Balance in Statement of Profit & Loss (Deficit, i.e. Debit Balance) is deducted to compute Shareholders' Funds.

Meaning and Computation of Total Assets to Debt Ratio:

- **Understanding Total Assets to Debt Ratio:**
  a. It is a relationship between total assets and long-term debts of the enterprise.
  b. It measures the extent to which debt (Long-term) is covered by the assets.
  c. It measures the 'Safety Margin' available to the lenders of the long-term debts.
  d. A higher ratio means higher safety for lenders and a lower ratio means lower safety for lenders.
  e. It is expressed as a Pure Ratio.
  f. Formula:

$$\text{Total Assets to Debt Ratio} = \frac{\text{Total Assets}}{\text{Debt (Long-term Debts)}}$$

- **Total Assets and Debts for computing Total Assets to Debt Ratio:**

  a. **Total Assets:** These include Non-current and Current assets as follows:
     - **Non-Current Assets:** This will include:
       - Fixed assets (tangible and intangible assets),
       - Non-Current Investments,
       - Long term Loans and Advances.
     - **Current Assets:** This will include:
       - Current Investments,
       - Inventories (including spare parts and loose tools),
       - Trade Receivables,
       - Cash and Cash Equivalents,
       - Short-term Loans and Advances,
       - Other Current Assets.

  b. **Debts:** This will include:
       - Long-term Borrowings,
       - Long-term Provisions.

Meaning and Computation of Proprietary Ratio:

- **Understanding Proprietary Ratio:**
  a. It is a relationship between proprietor's fund and total assets.
  b. It shows the financial strength of the entity.
  c. It is used to measure the proportion of totals assets financed by Proprietors' Funds.
  d. It is an important ratio for the creditors as it helps them identify the portion of shareholders' funds in the total assets employed in the firm and also the safety margin available to them.
  e. A very high ratio indicates improper mix of proprietors' funds and loan funds that results in lower return on investment. A higher ratio means adequate safety for creditors and lenders. On the other hand, lower ratio means inadequate safety for creditors and lenders.
  f. It can be expressed either as 'Pure Ratio' or a 'Percentage Ratio'.
  g. Formula:

$$\text{Proprietary Ratio} = \frac{\text{Proprietor's Funds or Shareholders' Funds or Equity}}{\text{Total Assets}}$$

- **Proprietors' Funds and Total Assets for computing Proprietary ratio:**
  a. **Proprietors' Funds:** This can be computed using either of the 2 approaches available as follows:
     - **Liabilities Approach:** In this approach,
       Proprietors' funds = Share Capital (Equity + Preference) + Reserves and Surplus.
     - **Assets Approach:** In this approach,
       Proprietors' funds = Non-current Assets + Working Capital (i.e. Current Assets – Current Liabilities) – Non-current Liabilities.
  b. **Total Assets:** This includes:
     - **Non-Current Assets:** This will include:
       - Fixed assets (tangible and intangible assets),
       - Non-Current Investments,
       - Long term Loans and Advances.
     - **Current Assets:** This will include:
       - Current Investments,
       - Inventories (including spare parts and loose tools),

- Trade Receivables,
- Cash and Cash Equivalents,
- Short-term Loans and Advances,
- Other Current Assets

Meaning and Computation of Interest Coverage Ratio:

- **Understanding Interest Coverage Ratio:**
  a. It is a relationship between Net Profit before Interest and Tax and Interest on Long Term Debts.
  b. It is calculated to ascertain the amount of profit available to cover interest on long term debts.
  c. For lenders a higher Interest Coverage Ratio is considered better as it signifies a higher margin to meet interest cost.
  d. Formula:

$$\text{Interest Coverage Ratio} = \frac{\text{Profit before Interest and Tax}}{\text{Interest on Long-Term Debt}}$$

  e. It is expressed in number of times

Activity Ratios

Meaning and Computation of Inventory Turnover Ratio:

- **Understanding Inventory Turnover Ratio:**
  a. It is a relationship between Cost of Revenue from Operations, i.e., Cost of Goods Sold and average inventory carried during that period.
  b. It ascertains whether the investment in stock is appropriate and that only the required amount is invested in stock.
  c. It measures the number of times an enterprise sells and replaces its inventory and therefore, it is an activity as well as efficiency ratio that measures efficiency of inventory management.
  d. A high ratio shows that more sales are being produced by a rupee of investment in the inventories. On the other hand, a low ratio means inefficient use of investment in inventory, over investment in stocks, etc. A very high ratio indicates overtrading which may result in working capital shortage. Only an optimum Inventory Turnover Ratio ensures adequate working capital and helps firm ear a reasonable margin.
  e. Formula:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations (Cost of Goods Sold)}}{\text{Average Inventory}}$$

- **Understanding Cost of Revenue from Operations, Direct Expenses and Average Inventory for computing Inventory Turnover Ratio:**
  a. **Cost of Revenue from Operations (Cost of Goods Sold):** It is computed as follows:

$$\text{Cost of Revenue from Operations} = \text{Revenue from Operations} - \text{Gross Profit}$$

Or

$$\text{Cost of Revenue from Operations} = \text{Revenue from Operations} + \text{Gross Loss}$$

Or

Cost of Revenue from Operations = Opening Inventory
+ Net Purchases
+ Direct Expenses
- Closing Inventory

In case of manufacturing Entity:
Cost of Revenue from Operations = Cost of Materials Consumed
+ Purchases of Stock-in-Trade
+ Changes in Inventories of Finished Goods, WIP & Stock-in-Trade
+ Direct Expenses

b. **Direct Expenses:** Such an item will be shown separately in the Note to Accounts and may be in form of Employees Benefit Expenses and/or Other Expenses. In case if no direct expenses are given, it is assumed that direct expenses are nil.
c. **Average Inventory:** It is calculated as follows:
Average Inventory = (Opening Inventory + Closing Inventory) ÷ 2

Meaning and Computation of Trade Receivables Turnover Ratio:

- **Understanding Trade Receivables Turnover ratio:**
  a. It is the relationship between Credit Revenue from Operations (i.e., Net Credit Sales) and Average Trade Receivables (i.e., Average of debtors and bills receivable of the year).
  b. It indicates the number of times trade receivables are turned over in a year in relation to credit sales.
  c. It identifies how quickly trade receivables are converted into Cash and Cash Equivalents and therefore, indicates the efficiency in collection of amounts due against trade receivables.
  d. A higher ratio shows that debts are collected more promptly and a lower ratio shows inefficiency in collection or increased credit period or more investment in debtors.
  e. It should be computed keeping in mind that provision for doubtful debts is not deducted from trade receivables since the purpose is to calculate the number of days for which sales are tied up in trade receivables and not to ascertain realizable value of debtors.
  f. Formula:

$$\text{Trade Receivable Turnover Ratio} = \frac{\text{Credit Revenue from Operations (Net Credit Sales)}}{\text{Average Trade Receivables}}$$

  g. It is expressed in Times

Note 1: Credit Revenue from Operations (i.e., Net Credit Sales) = Credit Sales – Sales Return
Or Revenue from Operations – Cash Revenue from Operations

Note 2: $\text{Average Trade Receivables} = \frac{(\text{Opening Trade Receivables} + \text{Closing Trade Receivables})}{2}$

Or Average Trade Rec. = (Opening Debtors + Closing Debtors + Opening B/R + Closing B/R) ÷ 2

- **Understanding Average Collection Period or Debt Collection Period:**
  a. It is a ratio which provides an approximation of the average time that it takes to collect debtors.
  b. It is computed by dividing 365 (days) or 12 (months) by the Trade Receivables Turnover Ratio.
  Formula:

$$\text{Debt Collection Period} = \frac{365}{\text{Trade Receivables Turnover Ratio}}$$

Or

$$\text{Debt Collection Period} = \frac{12}{\text{Trade Receivables Turnover Ratio}}$$

  c. It is expressed in number of days or months

Meaning and Computation of Trade Payables Turnover ratio:

- **Understanding Trade Payables Turnover Ratio:**
  a. It is a relationship between the net credit purchases and total payables or average payables.
  b. It identifies the number of times the creditors are turned over in relation to credit purchases.
  c. A high ratio indicates that the enterprise is not availing a full credit period, which boosts up the credit worthiness of the enterprise. On the other hand, a low ratio or longer payment period indicates that creditors are not paid in time or increased credit period.
  d. Formula:
  e. It is expressed in Times

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

Note: $\text{Average Trade Payables} = \frac{(\text{Opening Trade Payables} + \text{Closing Trade Payables})}{2}$

Or Average Trade Payables = (Opening Creditors + Closing Creditors + Opening B/P + Closing B/P) ÷ 2

- **Understanding Average Payment Period or Average Age of Payables:**
  a. It shows the credit period enjoyed by the enterprise in paying creditors.
  b. Formula:

$$\text{Average Payment Period} = \frac{\text{Average Trade Payables}}{\text{Net Credit Purchases}} \times \text{Number of Months/Days}$$

Or

$$\text{Average Payment Period} = \frac{\text{Months or Days in a Year (12/365)}}{\text{Trade Payables Turnover Ratio}} = \text{....Months/Days}$$

Meaning and Computation of Working Capital Turnover ratio:

- **Understanding Working Capital Turnover Ratio:**
  a. It is a relationship between working capital and revenue from operations.
  b. It shows the number of times a unit of Rupee invested in working capital produces sales.
  c. It helps to ascertain whether or not working capital has been effectively used in generating revenue.

d. A higher ratio is considered as an ideal ratio whereas a very high ratio indicates overtrading.
e. Formula:

$$\text{Working Capital Turnover Ratio} = \frac{\text{Revenue from Operations}}{\text{Working Capital}}$$

Or

$$\text{Working Capital Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Working Capital}}$$

f. It is expressed in number of times.

- **Understanding Revenue from Operations and Working Capital for computing Working Capital Turnover Ratio:**
  a. **Revenue from Operations:**
     - It is the revenue earned by the company from its Operating Activities.
     - If the amount of Revenue from Operations is not given, it may be calculated on the basis of Cost of Revenue from Operations i.e., Cost of Goods Sold.
  b. **Working Capital:** It is calculated using following formula:
     Working Capital = Current Assets – Current Liabilities

Profitability Ratios

Meaning and Computation of Gross Profit Ratio:

- **Understanding Gross Profit Ratio:**
  a. It is a relationship between the Gross Profit and Revenue from Operations (i.e., Net Sales).
  b. A change either in Revenue from Operations (i.e., Net Sales) or Cost of Revenue from Operations (i.e., Cost of goods sold) or both will have an impact on this ratio.
  c. It shows the average margin on goods sold.
  d. It determines the efficiency with which production and/or purchase operations and selling operations are carried on.
  e. It is a reliable guide for fixing selling prices.
  f. It is useful in determining the efficiency of trading activities.
  g. It can be compared with ratio of earlier years or with that of other firms to compare the efficiency and growth of business
  h. Formula:

$$\text{Gross Profit Ratio} = \left(\frac{\text{Gross Profit}}{\text{Revenue from Operations}}\right) \times 100$$

  i. It is expressed in percentage

- **Understanding Gross Profit and Cost of Revenue from Operations for computing Gross Profit Ratio:**
  a. **Gross Profit:** It is calculated as follows:
     Gross Profit = Revenue from Operations (i.e. Net Sales)
     – Cost of Revenue from Operations (COGS)

  b. **Cost of Revenue from Operations:** It is calculated using the following:
     Cost of Revenue from Operations = Opening Inventory (excl. Spare parts & loose tools)
     + Net Purchases

+ Direct Expenses
– Closing Inventory (excl. Spare parts & loose tools)

Or

Cost of Revenue from Operations = Cost of Materials Consumed
+ Purchases of Stock-in-Trade
+ Change in Inventories of FG, WIP & SIT
+ Direct Expenses

Or

$$\text{Cost of Revenue from Operations} = \text{Revenue from Operations} - \text{Gross Profit}$$

- **Reasons for increase or decrease in Gross Profit Ratio:**
  - **i. Increase:** This ratio increases because of the following reasons:
    a. If the selling price increases and the cost of revenue from operations is constant.
    b. If the Cost of revenue from operations decreases and the selling price is constant.
    c. If there exists a combination of above two situations.
  - **ii. Decrease:** This ratio decreases if the above reasons are reversed.

Meaning and Computation of Operating Ratio:

- **Understanding Operating Ratio:**
  a. It is a relationship between Operating Costs and Revenue from Operations.
  b. It is the proportion of Cost of Revenue from Operations and Operating Expenses to Revenue from Operations.
  c. It helps in assessing the operational efficiency of an entity.
  d. It shows the percentage of Revenue from Operations that is absorbed by the Cost of Revenue from Operations and Operating Expenses.
  e. A low operating ratio is better because it leaves higher profit margin to meet non-operating expenses, pay dividend, etc. On the other hand, a high operating ratio indicates decline in efficiency.
  f. Formula:

$$\text{Operating Ratio} = \left(\frac{\text{Cost of Revenue from Operations} + \text{Operating Expenses}}{\text{Revenue from Operations}}\right) \times 100$$

Or

$$\text{Operating Ratio} = \frac{\text{Operating Cost}}{\text{Revenue from Operations}} \times 100$$

  g. It is expressed in percentage

- **Understanding Cost of Revenue from Operations, Operating Expenses and Operating Cost for computing Operating Ratio:**
  a. **Cost of Revenue from Operations:** It is calculated using the following:
  Cost of Revenue from Operations = Opening Inventory (excl. Spare parts & loose tools)
  + Net Purchases
  + Direct Expenses
  – Closing Inventory (excl. Spare parts & loose tools)

  Or

  Cost of Revenue from Operations = Cost of Materials Consumed

+ Purchases of Stock-in-Trade
+ Change in Inventories of FG, WIP & SIT
+ Direct Expenses

Or

$$\text{Cost of Revenue from Operations} = \text{Revenue from Operations} - \text{Gross Profit}$$

b. **Operating Expenses:** It is calculated using the following:

Operating Expenses = Employee Benefit Expenses
+ Depreciation & Amortization Expenses
+ Other Expenses (Other than Non-Operating Expenses)

Or

Operating Expenses = Office Expenses + Administrative Expenses
+ Selling & Distribution Expenses
+ Employee Benefit Expenses
+ Depreciation & Amortization Expenses

c. **Operating Cost:** It is calculated using the following:

Operating Cost = Cost of Materials Consumed + Purchases of Stock-in-Trade
+ Changes in Inventories of Finished Goods, WIP and Stock-in-Trade
+ Employees Benefit Expenses
+ Depreciation and Amortization Expenses
+ Other Expenses (other than Non-operation Expenses)

Meaning and Computation of Operating Profit Ratio:

- **Understanding Operating Profit Ratio:**
  a. It is the relationship between Operating Profit and Revenue from Operations i.e., Net Sales.
  b. It determines the operational efficiency of the business.
  c. An increase in the ratio shows improvement in the operational efficiency of the entity.
  d. Formula:

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Revenue from Operations (Net Sales)}} \times 100$$

  e. It is expressed in Percentage

- **Understanding Operating Profit for computing Operating Profit Ratio:** It is computed using the following formula:

$$\text{Operating Profit} = \text{Gross Profit} + \text{Other Operating Income} - \text{Other Operating Expenses}$$

Or

$$\text{Operating Profit} = \text{Net Profit}\ (\text{Before Tax}) + (\text{Non-operating Expense/Losses}) - (\text{Non-Operating Incomes})$$

Or

$$\text{Operating Profit} = \text{Revenue from Operations} - \text{Operating Cost}$$

Relationship between Operating Profit and Operating Ratio

$$\text{Operating Ratio} + \text{Operating Profit Ratio} = 100$$

Meaning and Computation of Net Profit Ratio:

- **Understanding Net Profit Ratio:**
  i. It is a relationship between Net Profit and Revenue from Operations i.e., Net Sales.
  ii. It helps in determining the operational efficiency of the business.
  iii. It indicates the actual status of business, as higher the Net Profit Ratio, better the business.
  iv. An increase in the ratio over the past period shows improvement in the operational efficiency.
  v. A decline in the ratio over the past period shows a fall in the operational efficiency.
  vi. It facilitates comparison of operation efficiency with that of industry standards.
  vii. Formula:

$$\text{Net Profit Ratio} = \frac{(\text{Net Profit After Tax})}{(\text{Revenue from Operations i.e. Net Sales})} \times 100$$

  viii. It is expressed in percentage

- **Understanding Net Profit for computing Net Profit Ratio:** This is calculated using the following formula:

  Net Profit = Revenue from Operations – Cost of Revenue from Operations – Operating Expenses – Non-Operating Expenses + Non-Operating Income – Tax.

Meaning and Computation of Return on Investment or Capital Employed:

- **Understanding Return on Capital Employed and Investment:** Following are the points of Objective and Significance of Return on Capital Employed and Investment:
  i. It shows the relationship between Net Profit/Earnings before interest and tax with capital employed.
  ii. It measures how efficiently the resources of the business are being used.
  iii. It is a fair measure of the profitability of any concern with the result that the performance of different industries can be compared.
  iv. It indicates whether the company or business is giving satisfactory returns.
  v. It assesses the overall performance of the enterprise.
  vi. Formula:

$$\text{ROI} = \frac{\text{Net Profit before Interest, Tax and Dividend}}{\text{Capital Employed}} \times 100$$

  vii. It is expressed in percentage

- **Understanding Capital Employed for computing Return on Investment:** It is computed either using the Liabilities Approach or Assets Approach. Under both the approaches, amount of capital employed remains the same.
  i. Liabilities Approach: Under this method, it is computed by adding
  a. Shareholders' Funds (Share Capital & Reserves and Surplus)* and
  b. Non-current Liabilities (Long-term Borrowings and Long-term Provisions).
  *if balance of Statement of P&L is negative, it is to be deducted to calculate shareholders' funds.
  ii. Assets Approach: Under this method, it is computed by adding
  a. Non-current Assets (i.e. Fixed assets-Tangible & Non-Tangible, Non-current Trade Investments and Long-term Loans and Advances) and
  b. Working Capital i.e., Current Assets – Current Liabilities.