

1. Details of Module and its structure

Module Detail	
Subject Name	Accountancy
Course Name	Accountancy 04 (Class XII, Semester – 2)
Module Name/Title	Accounting Ratios – Part 4
Module Id	leac_20504
Pre-requisites	Basic knowledge of Ratios
Objectives	<p>At the end of the lesson, the learners will be able to:</p> <ul style="list-style-type: none">• Explain meaning of Activity (Turnover) Ratio• List the types of Activity (Turnover) Ratio• Calculate Inventory Turnover Ratio• Calculate Trade Receivable Turnover Ratio• Calculate Trade Payable Turnover Ratio• Calculate Investment (Net Assets) Turnover Ratio• Calculate Fixed Assets Turnover Ratio• Calculate Working Capital Turnover Ratio
Keywords	Activity (Turnover) Ratio, Inventory Turnover, Trade receivable Turnover, Trade payable Turnover, Investment (Net assets) Turnover, Fixed assets Turnover, Working capital Turnover

2. Development Team

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1.1. Introduction

The financial details that are prepared by the business enterprisers so as to meet the information requirement of the decision-makers are known as financial statements. These statements provide financial data that require analysis, comparison and interpretation for taking decision by the external as well as internal users of accounting information. This act is termed as financial statement analysis. The most commonly used techniques of financial statements analysis are comparative statements, common size statements, trend analysis, accounting ratios and cash flow analysis. These techniques are regarded as an integral and important part of accounting.

This module will cover the technique of accounting ratios for analysing the speed at which, activities of the business are being performed or the ratios that help in analysing the efficiency of the business. Thus, we will understand the Activity or the Turnover Ratio in this module.

2.1 Activity (or Turnover) Ratio

These ratios indicate the speed at which, activities of the business are being performed. The activity ratios express the number of times assets employed, or if any constituent of assets, is turned into sales during an accounting period.

Thus, the activity ratios show the connection between sales and a given asset. It indicates the investment in one particular group of assets and the revenue the assets are producing. Assets such as

raw materials and machinery are introduced to generate sales and thereby, profits. The activity ratios show the speed at which the assets are converted into sales.

Hence, activity ratios play an active role in evaluating the operating efficiency of the business as it not only shows how the company generates revenue but also how well the company is managing the components in its balance sheet.

Higher turnover ratio means better utilisation of assets and signifies improved efficiency and profitability. They are therefore also referred as efficiency ratios.

The important activity ratios calculated under this category are :



2.1.1 Inventory Turnover Ratio

It determines the number of times inventory is converted into revenue from operations during the accounting period under consideration. This is one of the most important turnover ratios which highlights the relationship between the inventory or stock in the business and cost of the goods sold. It shows how fast the inventory gets cleared in an accounting period or in other words, the number of times the inventory or the stock gets sold or consumed. It is also known as the 'Inventory turnover ratio'.

The formula for its calculation is as follows:

$$\text{Inventory Turnover Ratio} = \text{Cost of Goods Sold} / \text{Average Inventory}$$

Where, Average inventory refers to average of opening and closing inventory.

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

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And, Cost of Goods Sold is also known as Cost of Revenue from operations.

$$\text{Cost of Goods Sold} = \text{Opening Stock} + \text{Net Purchases} + \text{Direct Expenses} - \text{Closing Stock}$$

2.1.1.2 Significance of Inventory Turnover Ratio:

It studies the frequency of conversion of inventory of finished goods into revenue from operations. It is also a measure of liquidity. It determines how many times inventory is purchased or replaced during a year. Low turnover of inventory may be due to bad buying, obsolete inventory, etc., and is a danger signal. High turnover is good but it must be carefully interpreted as it may be due to buying in small lots or selling quickly at low margin to realise cash. Thus, it throws light on utilisation of inventory of goods.

Illustration 1

Calculate Inventory Turnover Ratio from the following:

Cost of Goods Sold – Rs. 4,50,000

Opening Stock – Rs. 1,00,000

Closing Stock – Rs. 1,25,000

Solution:

$$\begin{aligned}\text{Average Inventory} &= \frac{\text{Opening Stock} + \text{Closing stock}}{2} \\ &= \frac{\text{Rs.1,00,000} + \text{Rs. 1,25,000}}{2} \\ &= \text{Rs. 1,12,500}\end{aligned}$$

$$\begin{aligned}\text{Inventory Turnover Ratio} &= \text{Cost of Goods Sold} / \text{Average Inventory} \\ &= \text{Rs. 4,50,000} / \text{Rs. 1,12,500} \\ &= 4 \text{ Times}\end{aligned}$$

Hence, Inventory Turnover Ratio is 4 times.

Illustration 2

From the following information, calculate inventory turnover ratio:

Inventory in the beginning – Rs. 18,000

Inventory at the end – Rs. 22,000

Net purchases – Rs. 46,000

Wages – Rs. 14,000

Revenue from operations – Rs. 80,000

Carriage inwards – Rs. 4,000

Solution:

$$\text{Inventory Turnover Ratio} = \text{Cost of Goods Sold} / \text{Average Inventory}$$

$$\begin{aligned}
\text{Cost of Goods Sold} &= \text{Opening Stock} + \text{Net Purchases} + \text{Direct Expenses} - \text{Closing Stock} \\
&= \text{Rs. } 18,000 + \text{Rs. } 46,000 + \text{Rs. } 14,000 + \text{Rs. } 4,000 - \text{Rs. } 22,000 \\
&= \text{Rs. } 60,000
\end{aligned}$$

$$\begin{aligned}
\text{Average Inventory} &= \frac{\text{Opening Stock} + \text{Closing stock}}{2} \\
&= \frac{\text{Rs. } 18,000 + \text{Rs. } 22,000}{2} \\
&= \text{Rs. } 20,000
\end{aligned}$$

$$\begin{aligned}
\text{Inventory Turnover Ratio} &= \text{Rs. } 60,000 / \text{Rs. } 20,000 \\
&= 3 \text{ Times}
\end{aligned}$$

Hence, Inventory Turnover Ratio is 3 Times.

2.1.2 Trade Receivable Turnover Ratio

Trade Receivable Turnover ratio is an important indicator of a company which shows how well a company is able to provide credit facilities to its customers and at the same time is also able to recover the due amount within the payment period. A higher ratio indicates that the credit policy of the company is sound, while a lower ratio shows a weak credit policy

It is also known as Accounts Receivable turnover ratio and Debtor Turnover ratio as the payments for credit sales that will be received in the future are known as accounts receivables.

The formula for its calculation is as follows :

$$\text{Trade Receivable Turnover Ratio} = \text{Credit Sales} / \text{Average Debtors}$$

Where,

$$\text{Credit Revenue from operations} / \text{Credit Sales} = \text{Total revenue from operations} - \text{Cash revenue from operations}$$

$$\text{Average Trade Receivables} = \frac{\text{Opening Trade Receivables} + \text{Closing Trade Receivables}}{2}$$

2.1.2.1 Significance of Trade Receivable Turnover Ratio:

The liquidity position of the firm depends upon the speed with which trade receivables are realised. This ratio indicates the number of times the receivables are turned over and converted into cash in an accounting period. Higher turnover means speedy collection from trade receivable. This ratio also helps in working out the average collection period. The ratio is calculated by dividing the days or months in a year by trade receivables turnover ratio.

Number of days or Months / Trade receivables turnover ratio

Illustration 1

Calculate the Trade receivables turnover ratio and Average Collection Period from the following information:

Total Revenue from operations – Rs. 4,00,000

Cash Revenue from operations 20% of Total Revenue from operations

Trade receivables as at 1.4.2018 - Rs. 40,000

Trade receivables as at 31.3.2019 – Rs. 1,20,000

Solution:

$$\begin{aligned}\text{Trade Receivable Turnover Ratio} &= \text{Credit Sales} / \text{Average Debtors} \\ &= \text{Rs. 3,20,000} / \text{Rs. 80,000} \\ &= 4 \text{ times}\end{aligned}$$

Hence, Trade Receivable Turnover Ratio is 4 Times.

$$\begin{aligned}\text{Average Collection Period} &= \frac{\text{No. of days or month in a year}}{\text{Trade Receivable Turnover Ratio}} \\ &= \frac{365}{4} \\ &= 91 \text{ Days}\end{aligned}$$

Hence, Average Collection Period is 91 Days.

Working Notes:

Credit Sales = Total revenue from operations – Cash revenue from operations

$$\begin{aligned}\text{Cash Revenue from operations} &= 20\% \text{ of Rs. 4,00,000} \\ &= \text{Rs. 4,00,000} \times 20 / 100 \\ &= \text{Rs. 80,000}\end{aligned}$$

$$\begin{aligned}\text{Total Revenue from operations} &= \text{Rs. 4,00,000} - \text{Rs. 80,000} \\ &= \text{Rs. 3,20,000}\end{aligned}$$

Average Trade Receivables = Opening Trade Receivables + Closing Trade Receivables

$$= \frac{\text{Rs. 40,000} + \text{Rs. 1,20,000}}{2}$$

$$= \text{Rs. 80,000}$$

2.1.3 Trade Payable Turnover Ratio

Trade payables turnover ratio indicates the pattern of payment of trade payable. As trade payable arise on account of credit purchases, it expresses relationship between credit purchases and trade payable. It shows the number of times the account payables are cleared by the company in an accounting period. For this reason, it is also known as the Accounts payable turnover ratio. It is also called Creditors Turnover Ratio.

Thus, it is a measure of the capability of the company to pay off the amount for credit purchases successfully in an accounting period.

It is calculated as follows:

Trade Payables Turnover ratio = Net Credit Purchases / Average Trade Payable

Where,

Average Trade Payable =

$$\frac{\text{Opening Creditors and Bills Payable} + \text{Closing Creditors and Bills Payable}}{2}$$

Average Payment Period =

$$\frac{\text{No. of days or month in a year}}{\text{Trade Payables Turnover Ratio}}$$

2.1.3.1 Significance of Trade Payable Turnover Ratio

It reveals average payment period. Lower ratio means credit allowed by the supplier is for a long period or it may reflect delayed payment to suppliers which is not a very good policy as it may affect the reputation of the business. A high ratio is indicative that a company is able to finance all the credit purchases.

Illustration 1

Calculate the Trade payables turnover ratio and Average Payment Period from the following figures:

Credit purchases during 2018-19 = Rs. 12,00,000

Creditors on 1.4.2018 = Rs. 3,00,000

Bills Payables on 1.4.2018 = Rs. 1,00,000

Creditors on 31.3.2019 = Rs. 1,30,000

Bills Payables on 31.3.2019 = Rs. 70,000

Solution:

Trade Payable Turnover ratio = Net Credit Purchases / Average Trade Payable

$$= \text{Rs. } 12,00,000 / \text{Rs. } 3,00,000$$

$$= 4 \text{ times}$$

Hence, Trade Payable Turnover ratio is 4 times.

Average Payment Period = No. of days or month in a year

Trade Payables Turnover Ratio

$$= \frac{365}{4}$$

$$= 91 \text{ Days}$$

Hence, Average Payment Period is 91 Days.

Working Notes:

Average Trade Payable =

Opening Creditors and Bills Payable + Closing Creditors and Bills Payable

$$2$$

$$= \frac{\text{Rs. } 3,00,000 + \text{Rs. } 1,00,000 + \text{Rs. } 1,30,000 + \text{Rs. } 70,000}{2}$$

$$2$$

$$= \text{Rs. } 3,00,000$$

2.1.4 Investment (Net Assets) Turnover Ratio

Investment (Net Assets) Turnover Ratio reflects relationship between revenue from operations and net assets (capital employed) in the business. The ratio is used to evaluate the ability of a management team to generate revenue with a specific amount of funding. Higher turnover means better activity and profitability.

It is calculated as follows:

Net Assets Turnover ratio = Revenue from Operation / Capital Employed

2.1.4.1 Significance of Investment (Net assets) Turnover Ratio

High turnover of capital employed is a good sign and implies efficient utilisation of resources. Utilisation of capital employed or, for that matter, any of its components is revealed by the turnover ratios. Higher turnover reflects efficient utilisation resulting in higher liquidity and profitability in the business.

Illustration 1

From the following information, Calculate Net Assets Turnover Ratio:

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
Preference shares capital	4,00,000	Plant and Machinery	8,00,000
Equity share capital	6,00,000	Land and Building	5,00,000
General reserve	1,00,000	Motor Car	2,00,000
Balance in Statement of Profit and Loss	3,00,000	Furniture	1,10,000
14% Loan	2,00,000	Bank	80,000
Creditors	2,00,000	Cash	30,000
	1,40,000		

Revenue from operations for the year 2018-19 were Rs. 30,00,000

Solution

Net Assets Turnover ratio = Revenue from Operation / Capital Employed

$$= \text{Rs.}30,00,000 / \text{Rs.}18,00,000$$

$$= 1.67 \text{ times (Approx.)}$$

Hence, the Net Assets Turnover Ratio is 1.67 times.

Working Notes:

Capital Employed = Share Capital + Reserves and Surplus + Long-term Debts

$$= (\text{Rs.}4,00,000 + \text{Rs.}6,00,000) + (\text{Rs.}1,00,000 + \text{Rs.}3,00,000) + (\text{Rs.}2,00,000 + \text{Rs.}2,00,000)$$

$$= \text{Rs.} 18,00,000$$

2.1.5 Fixed Assets Turnover Ratio

Fixed assets turnover ratio is an indicator of how the company is using its fixed assets for generating sales. A high fixed asset turnover ratio shows the company's efficiency in utilising investment made on fixed assets, which resulted in more revenue generation. It is generally used as a performance indicator for manufacturing industries.

It is calculated as follows:

$$\text{Fixed Asset Turnover Ratio} = \text{Net Sales} / \text{Net Fixed assets}$$

2.1.5.1 Significance of Fixed Assets Turnover Ratio

High turnover of fixed assets turnover ratio is a good sign and implies efficient utilisation of resources. Utilisation of capital employed or, for that matter, any of its components is revealed by the turnover ratios. Higher turnover reflects efficient utilisation resulting in higher liquidity and profitability in the business.

Illustration 1

From the following information, Calculate Fixed Assets Turnover Ratio:

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
Preference shares capital	4,00,000	Plant and Machinery	8,00,000
Equity share capital	6,00,000	Land and Building	5,00,000
General reserve	1,00,000	Motor Car	2,00,000
Balance in Statement of Profit and Loss	3,00,000	Furniture	1,00,000
14% Loan	2,00,000	Bank	80,000
Creditors	2,00,000	Cash	30,000
	1,40,000		

Revenue from operations for the year 2018-19 were Rs. 30,00,000

Solution:

$$\text{Fixed Asset Turnover Ratio} = \text{Net Sales} / \text{Net Fixed assets}$$

$$= \text{Rs.}30,00,000 / \text{Rs.}16,00,000$$

$$= 1.88 \text{ times (Approx.)}$$

Hence, the Fixed Assets Turnover Ratio is 1.88 times.

Working Notes:

$$\begin{aligned} \text{Fixed Assets} &= \text{Plant and Machinery} + \text{Land and Building} + \text{Motor Car} + \text{Furniture} \\ &= \text{Rs.}8,00,000 + \text{Rs.}5,00,000 + \text{Rs.}2,00,000 + \text{Rs.}1,00,000 \\ &= \text{Rs.}16,00,000 \end{aligned}$$

2.1.6 Working Capital Turnover Ratio

Working Capital Turnover Ratio shows the relationship between working capital and revenue from sales. It shows the number of times a unit of rupee invested in working capital produces sales. If a company has a higher level of working capital it shows that the working capital of the business is utilized properly and on the other hand, a low working capital suggests that business has too many debtors and the inventory is unused.

It is calculated as follows:

Working capital turnover ratio = Net Sales or Costs of Goods Sold / Working Capital

Where,

Working capital = Current Assets – Current liabilities

2.1.6.1 Significance of Working Capital Turnover Ratio

This ratio is helpful in determining the effectiveness with which a company is able to utilise its working capital for generating sales of its goods. High turnover of working capital is a good sign and implies efficient utilisation of resources. Higher turnover reflects efficient utilisation resulting in higher liquidity and profitability in the business.

Illustration 1

Calculate Working capital turnover ratio from the following data:

Current Assets	Rs. 1,00,000
Current Liabilities	Rs. 50,000
Sales	Rs. 2,00,000
Sales Returns	Rs. 50,000

Solution:

Working Capital Turnover Ratio = Net Sales / Working Capital

= Rs. 1,50,000/ Rs. 50,000

Working Capital Turnover Ratio = 3 Times

Hence, this shows that for every 1 unit of working capital employed, the business generated 3 units of net sales.

Working Notes:

Net Sales = Sales – Sales Returns

Net Sales = Rs. 2,00,000 – Rs. 50,000

= Rs. 1,50,000

Working Capital = Current Assets – Current liabilities

Working Capital = Rs. 1,00,000 – Rs. 50,000

= Rs. 50,000

Summary

Activity ratios indicate the speed at which, activities of the business are being performed. The activity ratios express the number of times assets employed, or if any constituent of assets, is turned into sales during an accounting period. Thus, the activity ratios show the connection between sales and a given asset. It indicates the investment in one particular group of assets and the revenue the assets are producing. Assets such as raw materials and machinery are introduced to generate sales and thereby, profits.

The activity ratios include Inventory Turnover Ratio; Trade Receivable Turnover Ratio; Trade payable Turnover Ratio; Investment (Net assets) Turnover Ratio ; Fixed Assets Turnover Ratio; and Working Capital Turnover Ratio.

Inventory Turnover Ratio determines the number of times inventory is converted into revenue from operations during the accounting period under consideration. It is calculated as:

$$\text{Inventory Turnover Ratio} = \text{Cost of Goods Sold} / \text{Average Inventory}$$

Trade Receivable Turnover Ratio is an important indicator of a company which shows how well a company is able to provide credit facilities to its customers and at the same time is also able to recover the due amount within the payment period. It is calculated as :

$$\text{Trade Receivable Turnover Ratio} = \text{Credit Sales} / \text{Average Debtors}$$

Trade Payables Turnover Ratio indicates the pattern of payment of trade payable. As trade payable arise on account of credit purchases, it expresses relationship between credit purchases and trade payable. It is calculated as:

$$\text{Trade Payables Turnover ratio} = \text{Net Credit Purchases} / \text{Average Trade Payable}$$

Investment (Net Assets) Turnover Ratio reflects relationship between revenue from operations and net assets (capital employed) in the business. It is calculated as:

$$\text{Net Assets Turnover ratio} = \text{Revenue from Operation} / \text{Capital Employed}$$

Fixed Assets Turnover Ratio is an indicator of how the company is using its fixed assets for generating sales. It is calculated as:

$$\text{Fixed Asset Turnover Ratio} = \text{Net Sales} / \text{Net Fixed assets}$$

Working Capital Turnover Ratio shows the relationship between working capital and revenue from sales. It shows the number of times a unit of rupee invested in working capital produces sales. It is calculated as:

$$\text{Working capital turnover ratio} = \text{Net Sales or Costs of Goods Sold} / \text{Working Capital}$$