Chapter – II

PERFORMANCE APPRAISAL – A CONCEPTUAL EXPOSITION

The preceding chapter gave an introductory background of the entire research project. It mainly focused on the statement of problem, review of available literature, objectives, research methodology, research design, hypotheses, plan of study and limitations. The present chapter gives a deeper insight into concept of performance appraisal so as to prepare a background for the study of performance appraisal of paper industry in India.

INTRODUCTION

The prime objective of each business is to earn satisfactory returns on the funds invested in it. Consistent with maintaining a sound financial position, an evaluation of such performance is done in order to assess the efficiency of operations or the profitability of the organization and to appraise the financial strength as compared with a similarly situated concern.

The word performance is derived from the word ‘parfourmen’, which means ‘to do’, ‘to carry out’ or ‘to render’. It refers the act of performing, execution, accomplishment, fulfillment, etc. In broader sense, performance refers to the accomplishment of a given task measured against preset standards of accuracy, completeness, cost, and speed (Trivedi: 2010).

Performance is the execution or accomplishment of work feats etc. or a particular, action, deed or proceeding is refers as performance. However, the manner in which or the efficiency with which something reacts or fulfils its intended purpose is defined as performance. Performance may thus, mean different things to different businesses. Success or failure in the economic sense is judged in relation to expectations, return on invested capital and the objective of the business concern.

Performance is evaluated both on financial and non-financial achievements of business. Financial performance is understood in terms of various financial ratios,
which are divided as profit performance measures and investment performance measures. Non-financial measures include a range of indicators with orientation of customers, growth, and value to the community and societies. In the present work, the term performance appraisal is concerned with the analysis of financial statements only. The main purpose of this analysis is to evaluate past performance, financial position, liquidity position, future prospects for earnings, ability to pay interest and debt on maturity and profitability of a concern. The primary objectives of appraisal of financial statements are to determine the measure of efficiency of operations or the profitability from its income statement and to appraise financial strength as compared with similarly situated concern. Financial appraisal is intended to give an accurate picture of the financial condition of a concern in condensed form. Financial appraisal is generally directed towards evaluating the liquidity, stability and profitability of a concern. The financial appraisal of a concern involves the following steps, namely, collection of financial data, classification and tabulation of financial data and application of appropriate techniques.

The third step in the process of performance appraisal is the use and application of appropriate techniques. Many analysts have a favorite procedure for coming to some generalization about the firm being analyzed. The tools used to assess the financial condition and performance of the firm is financial ratios. The second factor, analytical tools used to assess the performance appraisal includes source and use of funds statement and the cash budget. The third factor, business risk, relates to the risk inherent in the operations of the enterprises. All three factors should be used in determining the financing needs of the firm. But the analyst should use some other factors in determining the funds need of the firm.

In other words, performance appraisal as a concept is purely a developmental tool for a company. As a developmental tool, it is not merely the end product or the final assessment. It is important as the whole process of appraisal. The learning opportunity for the appraiser and the apprise starts with setting of the tasks and targets. It manifests in the whole gamut of appraisal procedure such as self appraisal, appraisal interviews final appraisal, grading and developmental planning etc. Performance appraisal is composed of two words performance and appraisal. Performance indicates how the management of an enterprise has been accomplishing
the goals, which they had set for the enterprise. Performance is a measure of the degree to which an organization fulfills its purpose and the purpose is to achieve its objectives. The measurement of business performance is more complex and difficult, since it must deal with the effectiveness with which capital is employed, the efficiency and profitability of operations, and the value and safety of the various claims against the business. Appraisal refers to critical review with a view to improving performance. It includes the act to examine, to measure, to interpret and to draw conclusions.

Thus, performance appraisal is generally directed towards evaluating the liquidity, stability and profitability of a concern which put together symbolizes the financial efficiency of a concern. Performance appraisal of companies is done through financial analysis. Financial analysis is the evaluation and interpretation of a firm’s financial positions and operations and involves a comparison and interpretation of accounting data (Kulkarni: 1994). It is the analysis of financial statements, viz. balance sheet and profit and loss account aimed at diagnosing the profitability and financial condition of a business concern (Srivastava: 1979). It is the process of identifying the financial strengths and weakness of the firm by properly establishing relationships between the items of the balance sheet and the profit and loss account (Pandey: 1995)

The term ‘financial analysis’, also known as analysis and interpretation of financial statements, refers to the process of determining financial strengths and weaknesses of the firm by establishing strategic relationship between the items of the balance sheet, profit and loss account and other operative data. Financial analysis is a scientific tool which has assumed an increasingly important role in terms of appraising the real worth of an enterprise, its performance during a period of time and its pitfalls. Financial analysis helps in drawing out the complications of what is contained in the financial statements.

Financial analysis is defined as the process of discovering economic facts about an enterprise and/or a project on the basis of an interpretation of the available financial data (Vasant Desai: 1999). “It is a process of evaluating the relationship between component parts of a financial statement to obtain a better understanding of a firm’s position and performance” (Metcalf and Titard, quoted by Gupta and Sharma: 2005).
In the words of Myers, “financial statement analysis is largely a study of relationship among the various financial factors in a business as disclosed by a single set of statements, and a study of the trend of these factors as shown in a series of statements” (Myers, quoted by Gupta and Sharma: 2005). The purpose of financial analysis is to diagnose the information contained in financial statements so as to judge the profitability and financial soundness of the firm. Just like a doctor examine his patient by recording his body temperature, a blood pressure, etc. before making his conclusion regarding the illness and before giving his treatment, a financial analyst analysis the financial statements with various tools of analysis before commenting upon the financial heath or weaknesses of an enterprise (Gupta and Sharma: 2005).

Financial analysis refers to an assessment of the viability, stability and profitability of a business, sub-business or project. It is performed by professionals who prepare reports using ratios that make use of information taken from financial statements and other reports. These reports are usually presented to top management as one of their bases in making business decisions (http://en.wikipedia.org/).

**TYPES OF FINANCIAL ANALYSIS**

Financial analysis can be classified into different categories depending upon:

- The material used, and
- The method of operation followed in the analysis or the *modus operandi* of analysis

This shown with the help of following **Fig. 2.1**
• **On the basis of material used**

According to material used, financial analysis can be of two types:

- External analysis, and
- Internal analysis

**External Analysis**

As outsiders who do not have access to the detail internal accounting records of the business firm, therefore this analysis is done by them. Outsiders include investors, potential investors, creditors, potential creditors, credit agencies, government agencies, and the general public. These parties generally obtain data for analysis from the published financial statements.

**Internal Analysis**

This analysis is conducted by insiders who have access to the internal accounting records of a business firm. It is being conducted by internal analysts such as executives, employees, government officials; etc. Financial analysis for managerial purposes is the internal type of analysis that can be affected depending upon the purpose to be achieved.

• **On the basis of modus operandi**

According to the method of operation followed in the analysis, financial analysis can also be of two types:

- Horizontal Analysis and
- Vertical Analysis

**Horizontal Analysis**

Analysis of changes in different components of the financial statements over different periods with the help of series of the statements is known as ‘Horizontal Analysis’. It is also known as ‘Dynamic Analysis’. According to John N. Myer, “The horizontal analysis consists of a study of the behaviour of each of the entities in the statements” (Myers, quoted by Srivastava: 1979).
Vertical Analysis

Vertical analysis refers to the study of relationship of the various items in the financial statements of one accounting period. Since this sort of analysis examines relationships as between different components for a given point of time and does not shed light on changing behaviour of the above relationships, it is also regarded as ‘Static Analysis’. Common-size statements are the form of vertical analysis.

PROCEDURE OF FINANCIAL STATEMENTS ANALYSIS

The following preliminaries are required to be completed for making an analysis and interpretation of financial statements:

- The analyst should acquaint himself with the principles and postulates of accounting. He should know the plans and policies of the management so that he may be able to find out whether these plans are properly executed or not.

- Ascertain the purpose and the extent of analysis and interpretation so that the sphere of work may be decided. If the aim is to find out the earning capacity of the enterprise then analysis of income statement will be undertaken. On the other hand, if financial position is to be studied then balance sheet analysis will be necessary.

- The financial data should be re-organized and re-arranged in a useful manner. It will involve the grouping of similar data under same heads, breaking down of individual components of statements according to nature. The data is reduced to standard form.

- With the help of tools and technique of analysis such as ratios, trends, common size, fund flow etc. a relationship is established.

- Interpret the facts revealed by the analysis. The significance and utility of financial data is explained for helping decision- making.

- The interpretations drawn from the analysis are presented in the form of reports.
IMPORTANCE OF FINANCIAL ANALYSIS

- **Judging the operational efficiency of the business:** It is very important that the company must know the operational efficiency of its management. Analyst analyzes the financial statements, match the amount of manufacturing, selling, distribution and financial expenses of the current year with the corresponding expenses of the previous year and assess the management efficiency of the business.

- **Helps in evaluating Return on Investment:** Financial analysis can help you evaluate your return on investment and also give you an edge over the competition in a down market.

- **Indicating the trend of achievements:** Financial statements of the previous years can be compared and the trend regarding various expenses, purchases, sales, gross profit and net profit can be ascertained, cost of good sold, values of assets and liabilities can be compared and the future prospects of the business can be indicated.

- **Assessing the growth potential of the business:** The trend and dynamic analysis of the business provides us sufficient information indicating the growth potential of the business. Effective measures can be applied as remedial (corrective) measures, if the trend predicts gloomy picture.

- **Measuring the profitability:** Analysis can improve profitability, allow you to set benchmarks, assist your organization in optimizing productivity, and allow you to get a thorough look at your finances situation now and into the future.

- **Intra firm and inter firm comparison of the performance:** Analysis of financial statements can be made with the previous year’s performance of the same firm and also with the performance of other firms. Intra-firm analysis provides an opportunity of self appraisal, whereas inter-firm analysis presents the operational efficiency of the firm as compared to other firms. Weakness can be detected by making comparison and corrective measure can be applied.
• **Forecasting, budgeting and deciding future line of action:** Analysis of financial statements predicts the growth potential of the business. Comparison of actual performance with the desired performance shows our shortcomings. The analysis provides sufficient information regarding the profitability, performance and financial soundness of the business on the basis of these information’s, analyst can make effective forecasting, budgeting and planning.

• **Simplified, systematic and intelligible presentation of facts:** Analysis of financial statements is an effective tool for simplified, systematizing and summarizing the monotonous figures. An average person can draw conclusion from these ratios. The facts can be made more attractive by graphs and diagrams, which can be easily understood.

• **Pinpoints strengths and weakness:** Financial analysis can be an important tool in getting the most bangs out of your buck. It can really helps in pinpointing the strengths and weaknesses and adjusting the planning strategy accordingly.

**LIMITATIONS OF FINANCIAL ANALYSIS**

Financial analysis is a powerful mechanism of determining financial strengths and weakness of a firm. But, the analysis is based on the information available in the financial statements. Thus, the financial analysis suffers from serious inherent limitations of financial statements.

• **Suffering from the limitations of financial statements:** Financial statements suffer from variety of weaknesses. Balance sheet is prepared on historical record of the value of assets. It is just possible that assets may have the same value. Financial statements are prepared according to certain conventions at a point of time, whereas the investor is concerned with the present and future of the company.

• **Absence of standard universally accepted terminology:** Accounting is not an exact science. The profit revealed by the profit and loss account and the
financial position disclosed by the balance sheet cannot be exact. It does not have standard, universally accepted terminology. Different meanings are given to a particular term. There are different methods of providing depreciation. In this way, there is sufficient possibility of manipulation and the financial statements have to suffer.

- **Price level changes are ignored:** If price level changes have not been accounting for, the results shown by financial statements may be misleading.

- **Qualitative aspects are not taken into account:** Financial analysis does not measure the qualitative aspect of the business. It does not show the skill, technical knowhow and the efficiency of its employees and managers.

- **Financial statements are affected by window dressing:** The management displays rosy picture of the enterprise through financial statements. Sometimes material information is concealed. In order to show excellent profit, sales may be exaggerated, stock may be overvalued and certain purchases may not be shown. In such case analysis of financial statements will also be incorrect.

- **Financial statements are affected by the personal ability and bias of analyst:** The figures of financial statements do not speak themselves. This information are analyzed and interpreted by shrewd analyst, who may have their own views, reflected in the analysis.

- **Misleading results in the absence of absolute data:** In the absence of absolute data, results shown by financial analysis may be misleading. Increase in sales from Rs 30000 to 60000 shows that sales has doubled. In case of other firm increase of sales from Rs 2000000 to 4000000 also shows that the sales have doubled but the size of the firms is quite different. Profitability ratio of two firms may be the same, but magnitude of their business may be quite different.

- **Financial analysis is only a tool, not the final remedy:** Analysis of statement is a tool to measure the profitability, efficiency and financial soundness of the business. It should be noted that personal judgement of the
analyst are more important in financial analysis. We should not rely on single ratio.

- **Financial analysis spotted the symptoms but does not arrive at diagnosis:**
  Financial analysis shows the trend of the affairs of the business. It may spot symptoms of financial unsoundness and operational inefficiency but that cannot be accepted. A final decision in this regard will require further investigation and thorough diagnosis.

**Fig. 2.2 Shows the Techniques of Financial Analysis**

**COMPARATIVE STATEMENTS**

A comparative statement is a statement on which balance sheets, income statements, or statements of changes in financial position are assembled side by side for review purposes. Changes that have occurred in individual categories from year to year and over the years are easily noted. Such statements not only show the absolute figures of various years but also provide for column to present the increase or decrease in these figures from one year to another. In addition, these statements may also show the changes from one year to another in percentage terms. The percentage change is computed as follows:
Percentage Changes = \frac{\text{Amount of Changes}}{\text{Previous Year's Amount}} \times 100

In the words of Faulke “Comparative analysis is the study of trend of the same items and computed items in to or more financial statements of the same business enterprise on different dates” (Faulke, quoted by Siddiqui: 2000).

The two comparative statements are:

(i) Balance sheet
(ii) Income statement

Comparative Balance Sheet

The comparative balance sheet analysis is the study of the trend of the same items, group of items and computed items in two or more balance sheets of the same business enterprise on different dates. The changes can be observed by comparison of the balance sheet at the beginning and at the end of a period and these changes can help in forming an opinion about the progress of an enterprise. Such a balance sheet is very useful in studying the trends in an enterprise.

Comparative Income Statement

The income statement gives the results of the operations of a business. The comparative income statement gives an idea of the progress of a business over a period of time. The income statement discloses net profit or net loss on account of operations. The changes in absolute data in money values and percentage can be determined to analyze the profitability of the business.

TREND ANALYSIS

Trend analysis is also named as horizontal analysis, because each accounting variable is placed horizontally. This method determines the direction upwards and downwards and involves the computation of the percentage relationship that each statement item bears to the same item in base year. The method of trend percentage is
useful analytical device for the management since by substitution percentages for large amounts, the brevity and readability are achieved.

**COMMON SIZE STATEMENT**

Another useful way of analyzing financial statements is to convert them into Common Size Statements by expressing absolute rupee amounts into percentages. Each item of the assets is converted into percentage to total assets and each item of capital and liabilities is expressed to total liabilities and capital fund. Thus the whole balance sheet is converted into percentage form. Statements prepared in this way are referred to as Common-Size Statements.

Common Size Comparative Statements prepared for one firm over the years would highlight the relative changes in each group of expenses, assets and liabilities. These statements can be equally useful for inter firm comparisons, given the fact that absolute figures of two firms of the same industry are not comparable. The Common Size Statements may be prepared in the following way:

- The total of assets or liabilities are taken as 100
- The individual assets are expressed as a percentage of total assets, i.e., 100 are different liabilities are calculated in relation to total liabilities. For e.g. If total assets are Rs 5 lakhs and inventory value is Rs 50000, then it will be 10% of total assets (50000×100)/500000.

**COMMON SIZE BALANCE SHEET**

A statement in which balance sheet items are expressed as the ratio of each asset to total assets and the ratio of each liability is expressed as a ratio of total liabilities is called Common-Size Balance Sheet.

A company balance sheet that displays all items as percentages of a common base figure is known as Common Size Balance Sheet. This type of financial statement
can be used to allow for easy analysis between companies or between time periods of a company.

<table>
<thead>
<tr>
<th></th>
<th>Normal Balance Sheet</th>
<th>Common Sized Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
<td>2004</td>
</tr>
<tr>
<td>Cash</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>Inventory</td>
<td>2300</td>
<td>2000</td>
</tr>
<tr>
<td>Receivables</td>
<td>1500</td>
<td>2000</td>
</tr>
<tr>
<td>Investments</td>
<td>2000</td>
<td>1500</td>
</tr>
<tr>
<td>Total Assets</td>
<td>6800</td>
<td>6700</td>
</tr>
</tbody>
</table>

The image above illustrates the difference between a regular balance sheet and a common size balance sheet. In the normal balance sheet, account values are expressed in dollar terms, while in the common size one, each value is listed as a percentage of total assets. This is also done for liabilities, where each liability account is a percentage of total liabilities.

**COMMON SIZE INCOME STATEMENT**

The items in income statement can be shown as percentages of sales to show the relation of each item to sales. A significant relationship can be established between items of income statement and volume of sales. The increase in sales will certainly increase selling expenses and not administrative or financial expenses. In case the volume of sales increases to a considerable extent, administrative and financial expenses may go up. In case the sales are declining, the selling expenses should be reduced at once. So, a relationship is established between sales and other items in income statement and this relationship is helpful in evaluating operational activities of the enterprise.

An income statement is a statement in which each account is expressed as a percentage of the value of sales. This type of financial statement can be used to allow for easy analysis between companies or between time periods of a company.
Common Size Income Statement analysis allows an analyst to determine how the various components of the income statement affect a company's profit.

<table>
<thead>
<tr>
<th></th>
<th>Normal Income Statement</th>
<th>Common Size Income Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>19500</td>
<td>14800</td>
</tr>
<tr>
<td>COGS</td>
<td>14000</td>
<td>9800</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>5500</td>
<td>5000</td>
</tr>
<tr>
<td>Taxes</td>
<td>2500</td>
<td>2000</td>
</tr>
<tr>
<td>Total Profit</td>
<td>3000</td>
<td>3000</td>
</tr>
</tbody>
</table>

**FUNDS FLOW STATEMENT**

The balance sheet and income statement are the traditional basic financial statement of a business enterprise. A serious limitation of these statements is that they do not provide information regarding changes in the firm’s financial position during a particular period of time. They fail to answer following question:

- What funds were available during the accounting period and for what purpose these funds were utilized?
- Have long term sources been adequate to finance fixed asset purchase?
- Does the firm possess adequate working capital?
- How much funds have been generated from operations?
- Why did the firm not pay dividend in spite of adequate profit?
- The balance sheet is merely a static statement. It is statement of asset and liabilities of the business as on particular date.

The fund flow statement overcomes these limitations of basic financial statement. Fund flow statement will provide us information about different sources of fund and their various uses in particular time.
MEANING OF FUND

The term fund has a variety of meaning such as cash fund, capital fund and working capital fund.

- **Cash fund** – In a narrow sense, fund means only cash. ‘Cash flow statement’ portrays net effect of the various business transactions on cash into account receipts & disbursement of cash.

  This concept of preparing fund flow statement is not accepted, as there are many such transactions which do not affect cash but represent the flow of fund e.g. Purchase of furniture on credit does not affect cash but there is flow of fund.

- **Capital fund** – Here fund means all financial resources used in the business, whether in the form of men, money, material, machine & others.

- **Net working capital** - Net working capital means difference between current assets and current liabilities. Funds generally refer to cash or cash equivalent or to working capital.

MEANING OF FLOW

- The term ‘flow’ refers to changes or transfer and therefore the ‘flow of funds’ means transfer of economic values from one asset to another, from one liability to another, from one asset to liabilities or vice-versa or a combination of these. So flow of fund refers to increase or decrease in net working capital.

- The increase or decrease in net working capital will take place only when one account, out of two accounts to be affected in a transaction, is a current account i.e. current asset or current liabilities and the other account is non current account i.e. fixed asset or long term liability or capital.

- When a change in non current account is followed by a change in another non current account, it does not amount to flow of fund. It is because, in such case, neither the working capital increase nor decrease.
For example
Machinery a/c Dr
To Share Capital a/c

(Machinery purchase in consideration of share)

- In the above transaction both accounts are non current accounts which do not at all affect current asset and current liability. Therefore working capital will remain unaffected i.e. there will be no flow of fund.

- When changes in one current account results in changes in other current account, it also does not affect working capital i.e. there is no flow of funds.

For example
Cash a/c Dr
To Debtor’s a/c

(Cash received from debtors)

It represents an increase of cash – a current asset account and decrease of debtor again a current asset account. Thus there will be no net changes in the amount of working capital, although the composition of working capital will be affected.

Fig. 2.3

**FIGURE SHOWING FLOW OF FUND**

![Diagram showing flow of fund](www.exceltextguru.com)

In the above fig. 2.3 the dotted line displays there will be no flow of fund and the dark line displays the flow of fund.
PREPARATION OF FUND FLOW STATEMENT

The changes which occurred in the current accounts as a result flow of fund are reflected in a statement known as ‘schedule of changes in working capital’. The similar changes in non current accounts are shown in ‘Fund Flow Statement’.

Therefore, following are the two statements under this technique.

2. Statement of Sources and Uses of Funds or Funds Flow Statement.

Schedule of Changes in Working Capital

- It discloses the changes in individual item of current assets & current liabilities between two periods and their effect on working capital. Working capital will increase when there is an increase in current assets and decrease in current liabilities, whereas, working capital will decrease when there is a decrease in current asset & increase in current liabilities.
- Net increase in working capital is treated as use of funds and the net decrease in working capital is treated as source of funds.

MEANING OF FUND FLOW STATEMENT

This statement reveals resources from which funds were obtain by the firm hand the specific uses to which such funds were applied. The effectiveness of financial management in procuring funds from various sources and using them effectively for generating income without sacrificing the financial position of the firm is reflected in fund flow statement.

Definitions of Fund Flow Statement:

- In the words of Foulke, R. A., “A statement of source and application of fund is a technical device designs to analysis the changes in the financial condition

[57]
of business enterprises between two dates” (Foulke, quoted by Gupta and Sharma: 2005).

According to Almond Coleman, “The fund flow statement is a statement summarizing the significant financial changes which were occurred between the beginning and the end of a company’s accounting periods” (Coleman, quoted by Kulkarni: 1994).

Funds Flow Statement is called by various names such as sources and application of funds; statement of changes in financial position; sources and uses of funds; summary of financial operations; where came in and where gone out statement; movement of working capital statement; movement of funds statement; funds received and disbursed statement; funds generated and expended statement; sources of increase and application of decrease; funds statements etc.

This fund flow statement has two parts:

1. Sources of fund
2. Application of fund

The difference between these two parts that is sources and uses of funds represents net changes in working capital.

The excess of sources of funds over uses of fund is the net increase in working capital & excess of uses over sources of fund is net decrease in working capital.

The amount of net increase or decrease as shown in fund flow statement should be equal to the amount shown by schedule of working capital changes.

Perry Mason points out (in AICPA Research study No.2) quoted by (Kulkarni: 1994) that without an appropriate funds statement, the following questions cannot be answered:

- Where are profit gone?
- Why are dividends not larger?

[58]
• How is it possible to distribute dividends in excess of current earnings or out of net loss for the period?

• Why have net current assets gone down in spite of the rise in net income?

• How have the net current assets gone up in spite of net loss?

• Why is money borrowed to finance purchases of new plant and equipment when the required amount is exceeded by the “cash flow” (the sum of net income and depreciation)?

• How is expansion in plant and equipment resulting from a contraction of operations?

• How are debts retired?

• What happens to the assets derived from an increase in outstanding capital stocks?

• What happen to the proceeds of the debenture issue?

• How is the increase in working capital financed?

• Does the business tend to be more or less insolvent?

• How has working capital increased in spite of reduced profit during the year?

**IMPORTANCE OF FUNDS FLOW STATEMENT**

Funds flow statement is a tool of managing working capital. It reveals the inflow of additional funds during the current year as compared to the previous year and also the utilization of funds. It is a supplement to the financial statements. It has also reliable information for determining future line of action.

• **Technique of managing working capital**: It is a technique to ascertain the funds received during the year and also a method to know the uses of these funds. Working capital is the excess of current assets over current liabilities. The term working capital here means funds. In this way, ‘Funds Flow Statement’ depicts inflow and outflow of working capital.
• **Knowledge of change in the working capital:** It points out the causes for changes in working capital. Funds flow statement helps in analyzing the changes in working capital level of a firm.

• **Knowledge of funds from operation:** We are in a position to know the funds from operation. Income statement (profit and loss a/c) shows net income or net profit, which is calculated after debiting both operating and non-operating expenses and also after crediting operating and non-operating income. Funds from operation avoid non-operating expenses and non-operating income. In this way, funds from operating or trading transactions are separately available for study and analysis.

• **Helps in the assessment of long range forecasts:** Managements of various companies are able to review cash budgets with the aid of funds flow statements. They are extensively used by the management in the evaluation of alternative finance and investments. In the evaluation of alternative finance and investment plans, funds flow statement helps the management in the assessment of long-range forecasts of cash requirements & availability of liquid resources. The management can judge the quality of management decisions.

• **Knowledge of supplementary information:** Funds flow statement is prepared to supplement financial statements. As financial statements are incapable to tell exactly and precisely about funds from operation, changes in working capital, sources and application of funds, so funds flow statement is prepared to supply these information. These statements also show the financing and investing activities of the business.

• **Overall credit-worthiness:** Banks and financial institutions ask for fund flow statements in order to know the credit worthiness and repaying capacity of the concern. Fund statement provides clues to the creditors and financial institutions as to the ability of a company to use funds effectively in the best interest of the investors, creditors and the owners of the company.
• **Economic analysis:** Funds statement serve as effective tools to the management for economic analysis as it supplies additional information, which cannot be provided by financial statements, based on historical data. In India, Central Statistical Organization had made use of it in analyzing flow of fund in the banking sector.

• **Act as a process of budgeting:** Funds Flow Statement reveals the plus and minus points in the management of working capital. The management plans and budgets its future activities in such a way that weaknesses should be removed and good points should be strengthened.

### LIMITATIONS OF FUND FLOW STATEMENT

• **Not fool proof:** The financial statement is not completely foolproof, as it depends upon conventional financial statements, viz., balance sheet, income statement, etc.

• **No introduction of new items:** Fund Flow Statement does not introduce any new or original items which can enhance or reduce the financial status of the business. Its function is simply to re-arrange the financial data appearing elsewhere, that is, in the conventional financial statements and supplementary schedules and focus attention on those facts which are significant for any investigation.

• **Not relevant:** Changes in cash are more relevant for financial management than the working capital.

• **Historical:** It is essentially historic in nature and projected funds flow statement cannot be prepared with much accuracy.

• **No disclosure of structural changes:** This statement does not disclose structural changes in financial relationship in a business enterprise nor major policy changes in investments in current assets and short term financing. Significant additions to inventories financed by short term creditors are not
projected in the statement, because they are offset by each other in the process of computation of net change in working capital.

CASH FLOW STATEMENT

Meaning

Complementing the balance sheet and income statement, the Cash Flow Statement (CFS), a mandatory part of the company’s financial report since 1987, records the amounts of cash and cash equivalents entering and leaving a company. The CFS allows investors to understand how a company's operations are running, where its money is coming from, and how it is being spent (http://www.investopedia.com).

In financial accounting, a cash flow statement or statement of cash flows is a financial statement that shows a company’s incoming and outgoing money (sources and uses of cash) during a time period (of ten monthly and quarterly). The statement show how changes in balance sheet and income account affected cash and cash equivalents, and breaks the analysis down according to operating, investing, and financing activities. As an analytical tool the statement of cash flows is useful in determining the short term viability of a company, particularly its ability to pay bills. International Accounting Standard (IAS7) is the International Accounting Standard that deals with cash flow statements.

PURPOSE OF CASH FLOW STATEMENT

The cash flow statement was previously known as the statement of changes in financial position or flow of funds statement. The cash flow statement reflects a firm’s liquidity or solvency. The balance sheet is a snapshot of a firm’s financial resources and obligation at a single point in time and the income statement summarizes a firm’s financial transactions over an interval of time. These two financial statements reflect the accrual basis accounting used by firm’s to match revenues with the expenses associated with generating those revenues. The cash flow statement includes inflows
and outflows of cash and cash equivalents; it excludes transactions that do not directly affect cash receipts and payments. These non cash transactions include depreciation and write-offs on bad debts. The cash flow statements is a cash basis report on three types of financial activities, operating activities, investing activities and financing activities. Non cash activities are usually reported in footnotes.

The cash flow statement is intended to:-

- Provide information on a firm’s liquidity and solvency and its ability to change cash flows in future circumstances.

- Provide additional information for evaluating changes in assets, liabilities and equity.

- Improve the comparability of different firm’s operating performance by eliminating the effects of different accounting methods.

- Indicate the amount, timing and profitability of future cash flow.

- The cash flow statement has been adopted as a standard financial statement because it eliminates allocations which might be derived from different accounting methods, such as various time frames for depreciating fixed assets.

USE AND SIGNIFICANCE OF CASH FLOW STATEMENT

- It is very essential tool of short term financial analysis.

- A comparison of the historical and projected cash flow statements can be made in order to know the future cash position of a concern so as to enable a firm to plan and coordinate its financial operations properly.

- A series of intra firm and inter firm cash flow statements reveals whether the firm’s liquidity (short-term paying capacity) is improving or deteriorating over a period of time and in comparison to other firms over a given period of time.
• Cash flow statement provides information of all activities classified under operating, investing and financing activities.

• Cash flow statement helps in planning the repayment of loans, repayment of fixed assets and other similar long term planning of cash.

• Helps in taking loan from banks and other financial institutions.

LIMITATIONS OF CASH FLOW STATEMENT

• Cash flow statement just as the Income Statement and Balance Sheet are prepared using historical information which is in the past. It therefore does not provide complete information to assess the future cash flows of an entity.

• A company reporting an increase in cash balance during a period may not necessarily be a healthy company.

• The cash balances may be in currencies that may not be convertible.

• Working capital being a wider concept of funds, a funds flow statement presents a more complete picture than cash flow statement.

• A cash flow statement cannot be equated with the income statement. An income statement takes into account both cash and non cash items. Hence cash fund does not mean net income of the business.

ACCOUNTING RATIOS

Meaning

The Latin word ‘ratio’ stands for a reason so also its derivative ‘ratiocinari’. Sister words like ‘reri’ and ‘ratus’ imply the need to think. A ratio is a mathematical relation between two quantities. Suppose you have 200 apples and 100 oranges. The ratio of apples to oranges is 200/100, which we can conveniently express as 2:1 or 2. A financial ratio is a comparison between one bit of financial information and another.
A ratio is defined as “the indicated quotient of two mathematical expressions” and as “the relationship between two or more things” (Springfield: 1975).

In financial analysis, a ratio is used as an index or yardstick for evaluating the financial position and performance of firm. The relationship between two accounting figures, expressed mathematically, is known as a financial ratio (or simply as a ratio). The point to note is that a ratio indicates a quantitative relationship, which can be, in turn, used to make a qualitative judgement (Pandey: 1995).

**ADVANTAGES OF ACCOUNTING RATIOS**

Lee observed that the process of producing financial ratios is essentially concerned with the identification of the significant accounting data relationships which give the decision-maker insights into the company that is assessed (Kulkarni: 1994).

- **Facilitate in decision making:** It throws light on the degree of efficiency of the management and utilization of the assets and that is why it is called surveyor efficiency. Ratios are significant both in vertical and horizontal analysis. In vertical analysis ratios help the analyst to form a judgment whether performance of the firm at a point of time is good, questionable or poor. Likewise, use of ratios in horizontal analysis, indicates whether the financial condition of the firm is improving or deteriorating and whether the cost profitability or efficiency is showing an upward or downward trend (Srivastava: 1979).

- **Trend analysis:** Finally, ratio analysis enables a firm to take the time dimension into account. The significance of a trend analysis of ratios lies in the fact that the analysts can know the direction of movement, that is, whether the movement is favourable or unfavorable (Khan and Jain: 1999).

- **Aids in forecasting and budgeting:** Accounting ratios provide a reliable data, which can be compared, studied and analyzed. These ratios provide sound footing for future forecasting. The ratio that are derived after analyzing and
scrutinizing the past result, helps the management to prepare budgets to formulate policies and also helps in determining future line of action.

- **Measurement of the profitability:** Management is constantly concerned about the overall profitability of the enterprise. Profitability of the business can be measured by calculating gross profit, net profit, expenses and other ratios. That is, they are concerned about the ability of the firm 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 utilization of the assets of the firm (Khan and Jain: 1999).

- **Helps in coordination:** Ratios even help in coordination which is of utmost importance in effective business management. Better communication of efficiency and weakness of an enterprise results in better coordination in the enterprise (Gupta and Sharma: 2005).

- **Enable both intra firm and inter firm comparison:** Every promising company has to compare its present performance with the previous performance and discover the plus and minus points. These points can be located by the calculation of different ratios. Comparison with the performance of other competitive firms can also be made. It facilitates the management to know whether the firm’s financial position is improving or deteriorating by setting a trend with the help of ratios. Comparison tells where the firm stands and what its prospects are. It enables both intra firm and inter-firm comparison.

- **Utility to shareholders/investors/government/employees/creditors:** The ratio analysis is also useful to shareholders who know the profitability of the company, to creditors, who know solvency of the business, to potential investors in assessing earning potential, to workers for computation of the bonus and even to the government in judging the progress of industry as a whole.
LIMITATIONS OF RATIO ANALYSIS

The ratio analysis is one of the most powerful tools of financial management. The ratios though indicate profitability, efficiency and financial soundness, but they are not the solution of all problems. Accounting ratios suffer from the following limitations.

- **False results:** Ratios are based upon the financial statements. In case, financial statements are incorrect or the data upon which ratios are based is incorrect, ratios calculated will also be false and defective.

- **Window dressing:** Window dressing means manipulation of accounts in a way so as to conceals vital facts and present the statement in a way to show better position than what is actually is. Window dress restricts the utility of ratio analysis. Financial statements can easily be window dressed to present a better picture of its financial and profitability position to outsiders. Hence, one has to be very careful in making a decision.

- **Complicated and complex:** V. V. Desai points out that the advancing artistry of the technique of ratio analysis has miserably failed to accomplish the expected impeccability or immaculacy. Moreover, it has made the technique more complicated and complex far beyond the understanding of ordinary businessmen, quoted by (kulkarni: 1994).

- **Personal bias:** Ratio is only means of financial analysis but not an end in them. Ratios have to be interpreted and different people may interpret the same ratio in different ways. As it is easy to calculate and simple to understand, there is a tendency to over employ them.

- **No allowances for price level changes:** Another limitation of the ratio analysis as a tool of financial analysis is associated with price level changes. A change in the price level can seriously affect the validity of comparisons of ratios computed for different time periods and this makes the interpretation of ratios invalid.
• **Misleading results in the absence of absolute data:** In the absence of actual data, the size of the business cannot be known. If gross profit ratio of two firms is 25%, it may be just possible that the gross profit of one is 2500 and sales Rs 10000, whereas the gross profit and sales of the other firm is Rs 500000 and sales 2000000. Profitability of the two firms is the same but the magnitude of their business is quite different.

• **Qualitative factors are ignored:** Ratio analysis is the quantitative measurement of the performance of the business. It ignores the qualitative aspect of the firm. It shows that ratio is only one sided approach to measure the efficiency of the business. Ratios are tools of quantitative analysis only.

• **Lack of proper standards:** It is very difficult to ascertain the standard ratio in order to make proper comparison. Different meanings are given to particular term, such as some firms take profit before interest and after tax, other may take profit before interest and tax. Bank overdraft is taken as current liability but some firms may take it as non-current. The ratios can be comparable only when uniform terminology is adopted by both the firms.

**FUNCTIONAL CLASSIFICATION OF ACCOUNTING RATIOS**

- Liquidity Ratios
- Long Term Solvency and Leverage Ratios
- Activity Ratios
- Profitability Ratios

**LIQUIDITY RATIOS**

Liquidity means an ability of an asset to be converted to cash quickly at low cost. It measures a firm’s ability to pay its current debts on time. Assets that may be converted into cash in a short period of time are referred to as liquid assets; they are listed in financial statements as current assets.
To measure the liquidity of a firm, the following ratios can be calculated:

**Current Ratio**

The ratio indicates the short term financial soundness of the company. It judges whether current assets are sufficient to meet the current liabilities. A ratio of less than one is often a cause for concern, particularly if it persists for any length of time. The ratio is calculated on the basis of the following formula:

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

**Interpretation of Current Ratio**

The standard current ratio is supposed to be two times or 2:1 in a developing country like India i.e., current assets should be two times of the current liabilities. In case it is very high, it will show the idleness of funds. If it is very low it will indicate short term financial scarcity.

**Quick or Acid Test or Liquid Ratio**

This ratio is also known as acid test ratio or quick assets ratio. According to Solomon, J. Flink “liquidity is the ability of the firm to meet its current obligation as they fall due” (Soloman, quoted by Siddiqui: 2000). This ratio is similar to the current ratio except that the inventories are excluded from the current assets because they may not be so easily marketable assets as the liquid assets are. The following formula is used to calculate this ratio:

\[
\text{Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}
\]

Or

\[
\text{Liquid Ratio} = \frac{\text{Current Assets} - (\text{Stock + Prepaid Expenses})}{\text{Current Liabilities}}
\]
Interpretation of Quick Ratio

Usually, a high acid test ratio is an indication that the firm is liquid and has the ability to meet its current or liquid liabilities in time and on the other hand a low quick ratio represents that the firm’s liquidity position is not good.

Liquidity ratio of 1:1 is generally considered excellent, as the liquid assets, will be considered sufficient to meet the current liabilities.

Absolute Liquid Ratio or Cash Ratio

A company’s most liquid assets are its holdings of cash and marketable securities. That is why analysts also look at the cash ratio:

\[
\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}
\]

Or

\[
\text{Cash Ratio} = \frac{\text{Cash and Bank + Short Term Securities}}{\text{Current Liabilities}}
\]

Absolute liquid assets include cash in hand and at bank and marketable securities or temporary investment. The acceptable norm of this ratio is 50% or 0.5:1 or 1:2 i.e. Re 1 worth absolute liquid assets are considered adequate to pay Rs 2 worth current liabilities in time as all the creditors are not expected to demand cash at the same time and then cash may also be realized from debtors and inventories.

LEVERAGE RATIOS

Leverage has been defined as “the action of a lever, and the mechanical advantages gained by it”. The term leverage refers to an increased means of accomplishing some purpose.

Leverage ratios help to evaluate business liabilities. Debt is associated with risk, so the more debt the higher the rate of return that will be expected. Leverage ratio measure how much financial leverage the firm has taken on.
**Long-Term Debt Ratio**

Financial leverage is usually measured by the ratio of long-term debt to total long term capital. The debt ratio tells us the per cent of funds provided by creditors and to what extent our assets protect us from creditors. Total long-term capital, sometimes called total capitalization, is the sum of long-term debt and shareholders’ equity.

\[
\text{Long-Term Debt Ratio} = \frac{\text{Long-Term Debt}}{\text{Long-Term Debt} + \text{Equity}}
\]

**Debt Equity Ratio**

The debt to equity ratio tells us how the firm finances its operations with debt relative to the book value of its sharehoders equity.

\[
\text{Debt-To-Equity Ratio} = \frac{\text{Debt}}{\text{Book Value of Shareholders Equity}}
\]

**Interpretation of Debt-Equity Ratio**

A ratio of 1:1 may be usually considered to be a satisfactory ratio although there cannot be any ‘rule of thumb’ or standard norm for all types of businesses. In some business a high ratio 2:1 or even more may be considered satisfactory, say, for example in the case of contractors business.

**Capital Gearing Ratio**

This ratio makes an analysis of the capital structure of the firm. This ratio shows relationship between equity share capital, (the variable cost bearing) and the fixed cost bearing i.e., preference share capital and debentures. As debenture holders and preference shareholders are paid interest or dividend at fixed rate, so they are known as fixed cost bearing long terms funds. The firm is said to be more geared, if equity capital is more than the debentures and preferences share capital.
Capital Gearing Ratio = \frac{\text{Equity Share Capital} + \text{Reserve and Surplus}}{\text{Preference Share Capital} + \text{Long–Term Debt Bearing}}

LEVERAGE RATIOS

Leverage may be classified as:

- Financial Leverage
- Operating Leverage
- Combined Leverage

Financial Leverage

The use of long-term fixed interest bearing debt and preference share capital along the equity share capital is called financial leverage or trading on equity. It is owner’s equity (equity share capital and reserves) which is used as a basis to raise loans and that is way it is called trading on equity. The long-term fixed interest bearing debt is employed by a firm to earn more from the use of these sources than their cost so as to increase the return on owner’s equity.

Financial leverage can be calculated as:

\[ \frac{\text{Earnings Before Interest and Tax (EBIT)}}{\text{Earnings Before Interest and Tax – Interest and Preference Dividend}} \]

Operating Leverage

The operating leverage take place when a change in EBIT. It indicates the impact of changes in sales on operating income. A firm with a high operating leverage has a relatively greater effect on EBIT for small changes in sales. Naturally, no firm likes to operate under conditions of a high operating leverage because that creates a high risk situation. It is always safe for a firm to operate sufficiently above the break-even point to avoid dangerous fluctuations in sales and profits. The operating leverage related to fixed costs. A firm with relatively high fixed cost uses much of its marginal
contribution is converted into EBIT. The operating leverage is the highest near the break-even point (Kulkarni: 1994).

\[
\text{Operating Leverage} = \frac{\text{Marginal Contribution}}{\text{Earnings Before interest and Tax}}
\]

Combined Leverage

Combined leverage is the product of operating leverage and financial leverage. It is a proxy for the total risk of a company. Combined leverage compares changes in revenues with changes in EBT.

\[
\text{Combined Leverage} = \text{Operating Leverage} \times \text{Fixed Charges Leverage}
\]

A combined leverage may thus be described as a ratio of marginal contribution to EBT, or as operating leverage multiplied by fixed charges leverages.

Total Investment to Long-Term Liabilities

This ratio is calculated by dividing the total of long-term funds by the long-term liabilities, thus:

\[
\text{Ratio of Total Investment to Long-Term Liabilities:}
\]

\[
= \frac{\text{Shareholders Fund} + \text{Long–Term Liabilities}}{\text{Long–Term Liabilities}}
\]

As a general rule the proportion of long-term liabilities should not be very high.

Ratio of Fixed Assets to Funded Debt

The ratio measures the relationship between the fixed assets and the funded debt and is a very useful to the long term creditors. The ratio can be calculated as below:
Ratio of Fixed Assets to Funded Debt = \frac{\text{Fixed Assets}}{\text{Funded Debt}}

Ratio of Current Liabilities to Proprietor’s Funds

The ratio of current liabilities to proprietor’s funds establishes the relationship between current liabilities and the proprietor’s funds and indicates the amount of long-term funds raised by the proprietor’s as against short term borrowings.

\text{Ratio of Current Liabilities to Proprietor’s Funds} = \frac{\text{Current Liabilities}}{\text{Proprietor’s Funds}}

Ratio of Reserve of Equity Capital

The ratio establishes relationship between Reserves and Equity Share Capital. The ratio indicates that how much profits are generally retained by the firm for future growth. Higher the ratio, generally, better is the position of firm.

\text{Ratio of Reserves of Equity Capital} = \frac{\text{Reserves}}{\text{Equity Share Capital}} \times 100

Activity Ratios

Activity ratios are employed to evaluate the efficiency with the firm manages and utilizes its assets. These ratios are also called turnover ratios because they indicate the speed with which assets are being converted or turned over into sales. Activity ratios, thus, involve a relationship between sales and assets.

Inventory/ Stock Turnover Ratio

This ratio indicates the efficiency of the firm in selling its product. Inventory turnover ratio also known as stock velocity is normally calculated as sales/ average inventory or cost of goods sold/average inventory. It would indicate whether inventory has been efficiently used or not. The purpose is to see whether only the required minimum funds have been locked up in inventory. Inventory Turnover Ratio
(I.T.R) indicates the number of times the stock has been turned over during the period and evaluates the efficiency with which a firm is able to manage its inventory.

\[
\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}
\]

Average inventory is calculated by adding the stock in the beginning and at the end of the period and dividing it by two. In case of monthly balance of stocks, all the monthly balances are added and the total is divided by the number of months for which the average is calculated.

**Interpretation of Inventory Turnover Ratio**

A high inventory/stock velocity indicates efficient management of inventory because more frequently the stock are sold, the lesser amount of money is required to finance the inventory. A low inventory turnover ratio indicates an inefficient management of inventory. A low inventory turnover implies over investment in inventories. A too high turnover of inventory may not necessarily always imply a favourable situation. A very high turnover of inventory does not necessarily imply higher profits. The profits may be low due to excessive cost incurred in replacing stocks in small lots, stock out situations, selling inventories at very low prices, etc.

**Debtors or Receivable Turnover Ratio and Average Collection Period**

The average collection period represents the average number of days for which a firm has to wait before its receivables are converted into cash.

The ratio can be calculated as follows:

\[
\text{Average Collection Period} = \frac{\text{Average Trade Debtors}(\text{Debtors}+ \text{B/R})}{\text{Sales per Day}}
\]

\[
\text{Sales per Day} = \frac{\text{Net Sales}}{\text{No. of Working Day}}
\]
Interpretation of Average Collection Period Ratio

Generally, the shorter the average collection period the better is the quality of debtors as a short collection period implies quick payment by debtors. Similarly, a higher collection period implies as inefficient collection performance which in turn adversely affects the liquidity or short term paying capacity of a firm out of its current liabilities.

Creditors Turnover Ratio (Creditors Velocity)

It is similar to debtor’s turnover ratio. It indicates the speed with which the payments for credit purchases are made to the creditors. The ratio can be computed as follows:

\[
\text{Creditor’s Turnover Ratio} = \frac{\text{Credit Purchase}}{\text{Average Accounts Payable}}
\]

The term Accounts Payable includes ‘trade creditors’ and ‘bill payable’.

The ratio may be calculated as follows:

\[
= \frac{\text{Total Purchases}}{\text{Account Payable}}
\]

Debt Payment Period Enjoyed Ratio (Average Age of Payables)

The ratio gives the average credit period enjoyed from the creditors. It can be computed by any one of the following methods:

\[
= \frac{\text{Months(or Days) in a year}}{\text{Creditors Turnover}}
\]

\[
= \frac{\text{Average Account Payables x Months(or Days) in a year}}{\text{Credit Purchases in the year}}
\]

\[
= \frac{\text{Average Account Payables}}{\text{Average Monthly(or Daily) Credit Purchases}}
\]
Interpretation of Creditors Turnover Ratio and the Debt Payment Enjoyed Ratio

Both the creditors turnover ratio and the debt payment period enjoyed ratio indicate about the promptness or otherwise in making payment of credit purchases. A higher ‘creditors turnover ratio’ or a ‘lower credit period enjoyed ratio’ signifies that the creditors are being paid promptly, thus enhancing the creditworthiness of the company. However, a very favourable ratio to this effect also shows that the business is not taking full advantage of credit facilities which can be allowed by the creditors.

Working Capital Turnover Ratio

This ratio indicates whether or not working capital has been effectively utilized in making sales. A higher ratio indicates efficient utilization of working capital and a low ratio indicates otherwise. But a very high working capital turnover ratio is not a good situation for any firm and hence care must be taken while interpreting the ratio. This ratio can be calculated as: (Gupta and Sharma: 2005)

\[
\text{Working Capital Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Average Working Capital}}
\]

\[
\text{Average Working Capital} = \frac{\text{Opening Working Capital} + \text{Closing Working Capital}}{2}
\]

PROFITABILITY RATIOS

Profitability is an indication of the efficiency with which the operations of the business are carried on. Poor operational performance may indicate poor scales and hence poor profits.

In the words of Keynes, Lord “profit is the engine that drives the business enterprise” (Keynes, quoted by Gupta and Sharma: 2005).

The following are the important profitability ratios:
General Profitability Ratios

Gross Profit Ratio

It shows the relationship between the gross profit and sales. This ratio shows the margin of profit on sales.

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

Significance

This ratio indicates the degree to which the selling price of goods per unit may decline without resulting in losses from operations to the firm. It also helps in ascertaining whether the average percentage of markup on the goods is maintained. There is no norm for judging the gross profit ratio; therefore, the evaluation of the business on its basis is a matter of judgement. However, the gross profit should be adequate to cover operating expenses and to provide for fixed charges, dividends and building up of reserves.

Net Profit Ratio:

This ratio indicates net margin earned on a sales of Rs 100. It is calculated as follows:

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

Net operating profit is arrived at by deducting operating expenses from gross profit.

Significance

This ratio helps in determining the efficiency with which affairs of the business are being managed. An increase in the ratio over the previous period indicates improvement in the operational efficiency of the business provided the gross profit ratio is constant. The ratio is thus an effective measure to check the profitability of business.
Operating Ratio

This ratio is a complementary of net profit ratio. Operating ratio throw light on the operational efficiency and profitability of a concern. Operating ratio establishes the relationship between cost of goods and other operating expenses on the one hand and the sales on the other.

\[
\text{Operating Ratio} = \frac{\text{Operating Cost}}{\text{Net Sales}} \times 100
\]

\[
\text{Operating Cost} = \frac{\text{Cost of Goods Sold} + \text{Operating Expenses}}{\text{Net Sales}} \times 100
\]

Significance

This ratio is the test of the operational efficiency with which the business is being carried. The operating ratio should be low enough to leave a portion of sales to give a fair return to the investors.

Expenses Ratio

Expenses ratio indicate the relationship of various expenses to net sales. The operating ratio reveals the average total variations in expenses. Expenses ratios are calculated by dividing each item of expenses or groups of expenses with the net sales to analyze the causes of variation of the operating ratio.

The lower the ratio, the greater is the profitability and higher the ratio, lower is the profitability.

\[
\text{Particular Expenses Ratio} = \frac{\text{Particular Expense}}{\text{Net Sales}} \times 100
\]

Cash Profit Ratio

The net profits of a firm are affected by the amount/ method of depreciation charged. Further, depreciation being non-cash expenses, it is better to calculate cash profit ratio. This ratio measures the relationship between cash generated from operation and the net sales. Thus,
Cash Profit Ratio = \( \frac{\text{Cash Profit}}{\text{Net Sales}} \times 100 \)

Where, cash profit = Net Profit + Depreciation

Over All Profitability Ratios

Profits are the measure of overall efficiency of a business. The higher the profits, the more efficient are the business considered.

Return on Shareholders’ Investment or Net Worth

Return on Shareholders’ Investment, popularly known as ROI or Return on Shareholder/Proprietors Funds is the relationship between net profits (after interest and tax) and the proprietor’s funds. Thus,

\[ \text{Return on Shareholder’s Investment} = \frac{\text{Net Profit (After Interest and Tax)}}{\text{Shareholder’s Funds}} \]

Interpretation and Significance of ROI

As the primary objective of business is to maximize its earning, this ratio indicates the extent to which this primary objective of business is being achieved. As this ratio reveals how well the resources of a firm are being used, higher the ratio, better are the results.

Return on Equity Capital

Return on Equity Capital, which is the relationship between profits of a company and its equity capital, can be calculated as:

\[ \text{Return on Equity Capital} = \frac{\text{Net Profit after Tax – Preference Dividend}}{\text{Equity Share Capital (Paid up)}} \]

A small variation of the above ratio is to calculate return on shareholders’ total equity which is equal to the paid-up equity share capital plus reserves and surplus plus share premium minus accumulated losses, if any.
Interpretation

Interpretation of ratio is similar to the interpretation of return on shareholders’ investments and higher the ratio, better it is.

Earnings Per Shares (E.P.S)

In order to avoid confusion on account of the varied meanings of the term capital employed, the overall profitability can also be judged by calculating earnings per share with the help of the following formula:

\[
\text{Earnings Per Equity Share} = \frac{\text{Net Profit after Tax} – \text{Preference Dividend}}{\text{Number of Equity Shares}}
\]

Significance

The Earnings Per Share helps in determining the market price of the equity shares of the company. A comparison of earnings per share of the company with another will also help in deciding whether the equity share capital is being effectively used or not. It also helps in estimating the company’s capacity to pay dividend to its equity shareholders.

Return On Capital Employed

ROCE is sometimes referred to as the "primary ratio"; it tells us what returns management has made on the resources made available to them before making any distribution of those returns. Return on capital employed establishes the relationship between profits and the capital employed. The term ‘capital employed’ refers to the total of investments made in a business and can be defined in a number of ways. The three most widely used definitions of this term are:

Gross Capital Employed:

The term ‘gross capital employed’ means the total of fixed assets and the current assets employed in the business.

\[
\text{Gross Capital Employed} = \text{Fixed Assets} + \text{Current Assets}
\]
Net Capital Employed:

The term ‘net capital employed’ comprises the total assets used in a business less its current liabilities.

\[ \text{Net Capital Employed} = \text{Total Assets} - \text{Current Liabilities} \]

Proprietors Net Capital Employed

Proprietor’s net capital employed means shareholders funds or investments in the business.

\[ \text{Proprietors Net Capital Employed} = \text{Fixed Assets} + \text{Current Assets} - \text{Outside Liabilities} \]

(Both Long-Term and Short Term)

Computation of profits for Return on Capital Employed

The profit for the purpose of calculating return on capital employed should be computation according to the concept of ‘capital employed’ used. The profits taken must be the profits earned on the capital employed in the business.

\[ \text{Return on Gross Capital Employed} = \frac{\text{Adjusted Net Profit}}{\text{Net Capital Employed}} \times 100 \]

Significance of Return on Capital Employed

Return on capital employed may help in devising future business policies for expansion or diversification etc. It is a prime test of the efficiency of business. It measures not only the overall efficiency of business but also helps in evaluating the performance of various departments. The borrowing policy of the enterprise may be properly formulated. The rate of interest on borrowings should always be less than the return on capital employed.
Capital Turnover Ratio

This ratio ensures whether the capital employed has been effectively used or not. This is also the test of managerial efficiency and business performance. Higher total capital turnover ratio is always in the interest of the company. The ratio is measured on the basis of the following formula:

\[
\text{Capital Turnover Ratio} = \frac{\text{Cost of Goods Sold or Sales}}{\text{Capital Employed}}
\]

Significance of Capital Turnover Ratio

It shows how many times capital is turned over into sales. It reflects the efficiency in the utilization of capital. Higher capital turnover ratio is always in the interest of the enterprise.

MARKET TEST OR VALUATION RATIOS

Dividend Yield Ratio

This is a fraction of the earnings-price ratio. Dividend yield ratio is calculated to evaluate the relationship between dividend per share paid and the market value of the share.

\[
\text{Dividend Yield Ratio} = \frac{\text{Dividend per Equity Share}}{\text{Market Value per Share}}
\]

\[
\text{Dividend per Share} = \frac{\text{Dividend paid to Share holder's}}{\text{Number of Shares}}
\]

Dividend Payout Ratio

This ratio reveals as to what portions of the earnings per share have been used for paying dividends and how much has been retained for ploughing back into the working of the company.
Dividend Payout Ratio = \frac{\text{Dividend per Equity Share}}{\text{Earnings per Share}}

It is an important ratio because ploughing back of profits enables a company to grow and pay more dividends in future.

Price-Earnings Ratio or P/E Ratio

This ratio indicates the number of times the earning per share is covered by its market price. This is calculated according to the following formula:

\[
\text{Price Earnings Ratio} = \frac{\text{Market price per Equity Share}}{\text{Earnings per Share}}
\]

Significance

Price earnings ratio helps the investor in deciding whether to buy or not to buy the shares of a company at a particular market price.

Generally, higher the price-earnings ratio, the better it is.

Earning Yield Ratio

This ratio also shows a relationship between earnings per share and market value of share. It can be calculated as follows:

\[
\text{Earning Yield Ratio} = \frac{\text{Earnings per Share}}{\text{Market Price per Share}} \times 100
\]

Market Value to Book Value Ratio

Market value to book ratio is the relationship between market value per share of a firm and its book value per share. Thus,

\[
\text{Market Value to Book Value Ratio} = \frac{\text{Market Value per Share}}{\text{Book Value per Share}}
\]
**Book Value and Par Value per Share**

\[
\text{Book Value per Share} = \frac{\text{Equity Share Capital} + \text{Reserve and Surplus} - \text{Accumulated losses}}{\text{Total No. of Equity Share}}
\]

This ratio indicates the share of equity shareholders after the company has completed all its liabilities and has paid creditors, debenture holders and preference shareholders. An analysis of book value is particularly useful at the time of liquidation when each shareholder would like to know what he will receive.

**DU PONT SYSTEM**

The return on investment ratios gives us a “bottom line” on the performance of a company, but don’t tell us anything about the “why” behind this performance. For an understanding of the “why”, the analyst must dig a bit deeper into financial statements. A method that is useful in examining the source of performance is the Du Pont System. The Du Pont System is a method of breaking down return ratios into their components to determine which areas are responsible for a firm’s performance. The Du Pont system of financial analysis clearly brings out the effect of the two factors on return on assets.

Return on Investment (ROI) represents the earning power of the company. ROI depends on two ratios:

**Net Profit Ratio and Capital Turnover Ratio**

A change in any of these factors will change these ratios also. The various factors affecting the ROI can be put through a chart given below. This chart is known as the Du Pont Control Chart since it was first used by Du Pont Company of the USA.
DU PONT CONTROL CHART

Return On Capital Employed is affected by a number of factors. Any change in these factors will affect the return on capital employed. For example, if the cost of goods sold increases, without any corresponding increase in the selling price of the goods, the net profit would decrease and consequently ROI would also decrease and if there is increase is working capital the total capital employed would increase and, therefore, in the absence of any increase in the net profit, ROI would decrease.

An increase in profit can be achieved either by more effective use of capital which will result in a higher turnover ratio or better sales efforts which will result in a higher net profit ratio. The same rate of return can be obtained either by a low net
profit ratio but a high turnover ratio or a low turnover ratio but a high net profit ratio (Maheshwari: 2001).

**BREAK EVEN POINT**

One of the most common tools used in evaluating the economic feasibility of a new enterprise or product is the break-even analysis. It portrays the relationship between cost of production, volume of production and the sales value. 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 setting price. The broader interpretation refers to the system of analysis which determines probable profit at any level of activity. Break Even Analysis can also be used to analyze the potential profitability of expenditure in a sales-based business.

Break Even Point is an equilibrium at which the total income equals to total expenditure. 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. It is also known as ‘critical point’ or ‘equilibrium point’ or ‘balancing point’ or no profit, no loss. If production / sales are increased beyond this level, there shall be profit to the organization and if it is decrease from this level, there shall be loss to the organization. Break-even analysis can be very helpful in the evaluation of a new venture.

**Computation of the Break-Even Point**

- Algebraic Formula Method
- Graphic or Chart Method

**Algebraic Formula Method for Computing the Break Even Point**

Break Even Point can be computed in terms of:

- Units of sales volume,
- Budget total or in terms of money value, and
• As a percentage of estimated capacity.

Break Even Point in Units

It is that level of output at which the total contribution equals the total fixed costs. It is calculated in the following ways:-

\[
\text{Break Even Point} = \frac{\text{Fixed Cost}}{\text{Selling Price Unit} - \text{Variable Cost per unit}}
\]

\[
= \frac{\text{Fixed Cost}}{\text{Contribution per Unit}}
\]

Break-Even Point in Term of Budget-Total or Money Value

At break-even point

Total Sales = Total Fixed Cost + Total Variable Cost

Or \( S = F + V \)

(Where \( S = \text{Sales}, F = \text{Fixed Cost} \) and \( V = \text{Variable Cost} \))

Or \( S - V = F \)

Hence,

\[
\text{Break – Even Sale} = \frac{\text{Fixed Cost} \times \text{Sales}}{\text{Sales} - \text{Variable Cost}}
\]

\[
= \frac{\text{Fixed Cost} \times \text{Sales}}{\text{Contribution}}
\]

With the use of P/V ratio, B.E.P. \( = \frac{\text{Fixed Cost}}{\text{P/V Ratio}} \)

\( (\text{As, Contribution} = \frac{\text{P/V Ratio}}{\text{Sales}}) \)
Break-Even Point as a Percentage of Estimated Capacity

Break-Even Point can also be computed as a percentage of the estimated sales or capacity by dividing the break-even sales by the capacity sales. If information as to total contribution at full capacity is available, the break-even point as a percentage of estimated capacity can be found as under.

\[
\text{B.E.P. (as \% age of capacity)} = \frac{\text{Fixed}}{\text{Total Contribution}}
\]

Cash Break-Even Point

It is the point where cash breaks even. i.e. the volume of sales where cash realizations on account of sales will be just sufficient to meet immediate cash liabilities. While calculating this point cash fixed costs (i.e., excluding depreciation and deferred expenses) and cash contribution (i.e., selling price less cash variable costs) is considered.

The point helps the management in determining the level of activity below which there are chances of insolvency on account of the firm’s inability to meet cash obligations unless alternative arrangements are made.

\[
\text{Cash Break-Even Point (in units)} = \frac{\text{Cash Fixed Cost}}{\text{Cash Contribution per Unit}}
\]

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:

\[
\text{Composite Break-Even Point (in sales value)} = \frac{\text{Total Fixed Cost}}{\text{Composite P/V ratio}}
\]

\[
\text{And, Composite P/V Ratio} = \frac{\text{Total Contribution}}{\text{Total Sales}} \times 100
\]
GRAPHIC METHOD OF BREAK-EVEN ANALYSIS OR BREAK-EVEN CHART

A break-even chart is a graphical representation of marginal costing. The break-even chart ‘portrays a pictorial view of the relationships between costs, volume and profits’. It shows the break-even and also indicates the estimated profit or loss at various levels of output. The break-even point as indicated in the chart 2.1 is the point at which the total cost line and the total sales line intersect.

Chart 2.1

(http://accountinglectures.com/break_even_chartgraph.html)
ASSUMPTIONS UNDERLYING BREAK-EVEN CHARTS

There are number of assumptions which are made while drawing a break-even chart, such as:

- All costs can be separated into fixed and variable costs.
- Fixed costs remain constant at all levels of activity.
- Variable cost fluctuates directly in proportion to changes in the volume of output.
- Selling prices per unit remain constant at all levels of activity.
- There is no opening or closing stock.
- The volume of output or production is the only factor which influences the cost.

ADVANTAGES AND LIMITATIONS OF BREAK EVEN CHART

Advantages of Break-Even Charts

- **Economy and efficiency can be affected:** The capacity can be utilized to the fullest possible extent and the economies of scales and capacity utilization can be effected. Comparative plant efficiencies can be studied through the break-even chart.

- It is useful for forecasting plans and profits.

- **Cost control can be exercised:** The break-even chart shows the relative importance of the fixed cost in the total cost of a product. If the cost is high, it induces management to take measures to control such costs. Thus, it is a managerial tool for control and reduction of costs, elimination of wastage, and achieving better efficiency.

- It facilitates inter-firm comparison of profitability.

- Can assist when applying for a loan.
Limitations of Break-Even Charts

There are certain limitations of break-even charts.

- A break-even chart does not suggest any action or remedies to the management as a tool of management decisions.
- Do not take into account possible changes in costs over the time period.
- A break-even chart provides only limited information.
- Break-even charts present only cost-volume profit relationships but ignore other important considerations such as the amount of capital investment, marketing problems and government policies, etc.
- More often, a break-even chart presents only a static view of the problem under consideration.

Margin of Safety

The margin of safety is measured as either a sales dollar volume or a ratio. The margin of safety in terms of sales dollar volume is calculated by subtracting break-even sales from current sales. The margin of safety as a ratio is calculated by dividing the dollar volume sales safety margin by current sales. As at break-even point there is no profit no loss, sales beyond the break-even represent margin of safety because any sales above the break-even point will give some profit. Thus,

\[
\text{Margin of Safety} = \text{Total Sales} - \text{Sales at Break – Even Point}.\]

Profit-Volume Graph

The profit-volume chart focuses on the profit-ability of a company. The vertical axis represents the maximum operating profit and the maximum operating loss that can be realized when capacity ranges from zero to 100%. The horizontal axis contains different levels of manufacturing capacity. Only one line is used by the profit-volume chart. This profit line begins at a negative point on the vertical axis.
which is equal to total fixed costs. When the profit line crosses the horizontal axis, a break-even point is stated in terms of productive capacity. The profit-volume chart can be used to measure the effects of changes in unit selling prices, total fixed costs, and unit variable costs. Each time such a change occurs; the profit-volume chart is revised. Below chart 2.2 is the graphical representation of profit volume.

Chart 2.2

[Graph of profit-volume chart]

[Graph of non-conventional break-even chart]
TOOLS OF PERFORMANCE APPRAISAL USED IN THE PRESENT RESEARCH PROJECT:

The data used to assess the performance appraisal of the paper Industry in India has been obtained from the reportjunction.com and annual reports of the selected paper mills. However, they have been supplemented with the secondary data wherever needed and found useful. For the purpose of performance appraisal the balance sheet and profit and loss account have been completely rearranged.

SIGNIFICANCE OF PERFORMANCE APPRAISAL IN PAPER INDUSTRY IN INDIA:

Analysis and interpretation of financial statements represent analysis and interpretation of financial statements results in the presentation of information in a manner that will enable business executives, investors and creditors to draw meaningful inferences. The analyst will have a more complete understanding of the significance and meaning of the financial data. Opinions differ regarding the relative importance of income statement and the balance sheet. To some, it is the income statement, which is more significant, while for others the balance sheet is of greater importance. The fact is that both these financial statements are equally useful in studying and evaluating the results of business activity and their impact upon the financial position of a concern. A study of any of these statements without referring to the others is futile. The worth of a business is what it earns. But the adequacy of earnings is always judged in relation to the total investments. Hence, a study of earnings without investments or conversely of investments without earnings is devoid of purpose. In fact, the data appearing in the income statement are intimately tied up with the data reported in the balance sheet. The inflow of assets resulting from the sale of products and services is measured in revenue accounts. The outflow of assets is measured in expenses accounts. The difference in revenue and expenses is known as net income and net loss, which is reflected either in the increase or decrease in net assets.

Hence, both these financial statements are of interlocking nature and together help in effective articulation. Obviously, therefore, none can be relegated to inferior
status vis-a-vis the other. Due to this financial statements are of varying importance according to different needs. The accountant has to try to reconcile these various needs of different users so as to achieve the optimum functional utility. It is, therefore, an accepted management policy to supplement the financial statements with the various schedules, diagrams and graphs, etc. so that these statements bring out the strength of the corporation in an effective manner. The need and importance of the performance appraisal of the paper industry can be emphasized keeping in view of the objectives of the study.

CONCLUSION

The foregoing discussion on the concept of performance appraisal clearly reveals that the performance appraisal is concerned with the analysis of financial statements of the companies. The main purpose of this appraisal is to evaluate past performance, financial position, liquidity position, future prospects for earnings, ability to pay interest and debt on maturity and profitability of a concern. Financial analysts often assess companies’ production and productivity performance, profitability performance, liquidity performance, working capital performance, fixed assets performance, fund flow performance and social performance. Interest of various related groups is affected by the financial performance of a firm. The performance appraisal identifies the financial strengths and weaknesses of the companies by properly establishing relationships between the items of the profit and loss account and balance sheet. The first task is to select the information relevant to the decision under consideration from the total information contained in the financial statements. The second is to arrange the information in a way to highlight significant relationships. The final is interpretation and drawing of inferences and conclusions. In short, performance analysis is the process of selection, relation, and evaluation.

After having discussed the conceptual framework of performance appraisal including its importance, limitations, purpose of performance appraisal, various tools and techniques used to appraise the performance of an organization, the next chapter would deal with the growth and development of paper industry in India.
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