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The Concept And Measurement Of Profitability
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2.1 INTRODUCTION:

Profit is the prime mover of every business activity. Business activities are motivated by profitability and possibilities of profit and it is only by the achievement of profit that a business survives.

Profit is the outcome of the excess of total revenue over total cost. By cost we mean the cost of production made up of fixed cost plus variable cost. Thus profit is the difference between total revenue and total cost where total cost is made up of fixed cost and variable cost. Total fixed cost remains constant irrespective of number of units produced, but per unit fixed cost goes on decreasing as we produce and sale more and more units of a product. Per unit variable cost is fixed and total variable cost increases or decreases as per the number of units produced.

In a perfectly competitive market the profit margin can be increased only by reduction of cost and not by increase in price because in a perfectly competitive market no single firm can increase the price independently. In perfectly competitive market, all firms are price taker not a price maker. Cost reduction is possible by two main ways. Firstly cost can be reduced by efficient and successful management preventing wastage and increasing productivity. Secondly the cost can be reduced by increasing the volume of production so that the plant works near full capacity, keeping very little scope for spare capacity. If the units of production increase per unit fixed cost decreases as the total fixed cost
gets divided among more units of the product. Besides per unit fixed cost, variable cost also gets decreased to some extent owing to benefit in price due to purchase of raw material on very large scale and also due to application of division of labour when the production is on the large scale.

Our above discussion obviously leads us to a term called profitability which concept is more meaning full than profit alone.

There is a clear difference between profit and profitability just as there is a clear difference between production and productivity. It is a fact, for example, that India stands first in the total production of sugar cane. Yet the country Cuba stands first in the productivity of sugar cane. Taking one acre of farmland of Cuba and one acre of farmland of India, the per acre production of sugar cane in Cuba is more than that of India. So, although in production India is first due to having more land, yet in productivity Cuba is first. Cuba is a very small country compared to India so in spite of higher productivity, its total production of sugar cane is much less than India. Thus productivity can be measured and compared between any two or more countries by taking equal size of land in both or more countries.

In the same way profitability between any two firms can be compared by taking equal sales volume (measured in rupees or units) in both the firms and then finding out which firm has earned more profit. That firm earning higher profit in spite of equal sales volume has higher profitability. Equal sales volume become possible by making use of
percentage or ratio while comparing profitability. The other way is to take two firms earning equal profits but having different sales volume. The firm that earns the same profit with less sales volume is considered to have higher profitability. Thus profit is an absolute term where profitability is a relative term which is much more useful for comparing the earning power of one firm as compared to other firms. Profitability can also be compared by taking profit in the context of total capital employed instead of total sales volume. We shall discuss this matter in detail afterwards.

2.2 DIFFERENCES BETWEEN CERTAIN SIMILAR LOOKING CONCEPTS :

➢ Difference between profit as per Accountancy & profit as per Economics :

In profit according to Economics, the sunk costs and opportunity costs are also considered but in Accounting profit the above two costs are not taken into consideration. Thus profit as per accountancy is always higher than profit as per economics, where sunk and opportunity costs are also considered and such costs are now-a-days mentioned as implied costs which are not actually paid but are simply taken into consideration.

➢ Difference between Accounting Profit and Social Profit :

Accounting profit lies in the difference between the current values
of sales minus the historic cost of expenses plus the retained capital gains. However, social profit lies in the difference between social benefits and social costs.

Thus, it is clear from the above discussion that accounting profit includes all the activities of a business concern while social profit includes only social activities of a business concern.

➢ **Difference between Productivity and Profitability**:

There is much similarity between productivity and profitability. But there exists some difference between their meanings. All firms with high productivity are always high in profitability, but all firms having high profitability may not be so good in productivity. This happen especially where there is no perfect competition and more or less some elements of monopoly exist there. By ability to charge higher price, profitability can be increased without increasing productivity. This is possible only when the firm is price maker that is element of monopoly exists there to a smaller of larger extent. Thus in monopoly, oligopoly or monopolistic competition, profitability can be increased by charging higher price without improving productivity. Productivity is the result of efficient functioning of a firm due to better management and control but profitability is either the result of improved productivity or the result of price rise due to monopoly in some form or the other.

➢ **Profitability And Efficiency**:

Profitability is also not synonymous with Efficiency thought it is
an index of efficiency, it is regarded as a measure of efficiency and management guide to greater efficiency. No doubt profitability is an important yardstick of efficiency, but the extent of profitability can not be taken as a final proof of efficiency. Some time satisfactory profits can make inefficiency and conversely a proper degree of efficiency can be accompanied by an absence of profit. The net profit figure simply reveals a satisfactory balance between the value received and value given. The change in operational efficiency is merely one of many factors on which profitability of an enterprise largely depends between cost and profitability. Moreover, there are many other factors besides efficiency which affects the profitability.

2.3 CONCEPTS OF PROFITABILITY:

(a) **Accounting Profitability**:

A measure of profitability is the overall measure of efficiency. In general terms efficiency in business is measured by the input-output analysis. By measuring the output as a proportion of the input, and company results of similar other firms or periods the relative change in its profitability can be established.

The income (output) as compared to the capital employed (input) indicates profitability of a firm. This is known as Return on Investment (ROI) or Return on Capital Employed. One of the objectives of a management is to maximise the profitability. The overall profitability ratio has two components i.e. net profit ratio (operating profit ÷ sales)
multiplied by turnover ratio (sales + capital employed).

**Therefore, Return on Investment (ROI) =**

\[
\frac{\text{Operating Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Capital Employed}} = \frac{\text{Operating Profit}}{\text{Capital Employed}}
\]

Return on Investment is a 'Prime measure' of management’s capability in handling funds entrusted to it as stewards. Increasing acceptance of this measure as an indicator of performance rests on solid grounds, and, therefore, profit opportunities and performance are viewed in relation to the scale of resources of funds required to produce them. That is, a given amount of profit return should be evaluated in terms of the percentage profit return on the investment of funds.

Moreover, the return on capital used depicts the effectiveness of all the operating decisions, from the routine to the critical, made by management at all levels of the organisation from shop foreman to president. For example;

**Production**: Plant layout, acquisition of automated equipment, product re-design, testing and quality control, purchasing, production and inventory control, employee welfare plan and real location of a plant etc.

**Marketing Decisions**: The marketing plan, hiring and training of salesmen, sales promotion and advertising campaign, etc.
Administrative Decision: Installation of electronic data-processing equipment and system and the executive development programme etc.

These and many other decisions aimed at improving organisational performance and maximising profits must be made continually.

(b) Social Profitability:

By and large, it appears that there is a general consensus that the primary goal of a business lies in maximising the long term wealth or economic welfare of its members, consistent with social and economic responsibility cost on the business firm by the community in which it operates. G. Means Gardiner rightly observed in this regard, “The darkness of avarice has been dispelled by the light of a new kind of social responsibility.”

Some social objectives re-inforce profitability by attracting customers, whilst others may be directly counteractive, for example, the elimination of pollution may well add direct cost to the company’s operations and reduce its profitability, but it creates social profitability. The overall performance of an enterprise certainly includes profitability.

Moreover, the wide community needs, market forces, customers’ and suppliers’ needs, social pressures, employment of labour and location
of factory environment considerations, elimination of noise, conservation of resources and treatment of waste etc. are also included in it.

Thus, in the words of Earnest Dale, these social objectives “appear to urge the executive to assume an infinitely broad-gauge burden of responsibilities to all of the various public with whom he deals.”

Therefore, it should be indispensable for every company to state its financial, personnel, marketing and social objectives in a simple and concise form well in advance and these objectives should be updated in the light of day-to-day changes. They should also be published so that they may enable every employee to know as to what the objectives are and judge how they influence his job.

(c) Value Added Profitability:

Value added is an important measure to judge the efficiency of an enterprise. It indicates the net value or wealth created by the manufacture during a specified period. No enterprise can survive or grow, if it fails to generate wealth. An enterprise may exist without making profit but cannot survive without adding value. The enterprise, not making profit, is bound to become sick but not adding value may cause its death over a period of time.
Thus, value added is a concept broader than profit, which just forms a part of the value added. In fact, “Value added at a particular level of operating capacity and claims as value added can expose the efficiency or inefficiency of a business.

The investment made in an enterprise comprises investment in shares by shareholders, borrowings from outsiders like debentureholders, creditors and specialised financial institutions etc. If such an investment does not generate growth, i.e. value added, it means that it is a misuse of public funds. Therefore, the concept of value added can be directly linked with the concept of social profitability of an enterprise.

The measure of value added must be applied in addition to profitability to measure the performance of a business. Thus the concept of value-added measures, the performance of the enterprises and workout the productivity ratio, which helps the management to find out how productivity is increased when the same or better outputs are produced with reduction in resources consumed. Moreover, the concept represents the wealth distribution in the proper manner.

2.4 SIGNIFICANCE OF PROFIT AND PROFITABILITY:

Everything in the world is result-oriented, and a firm too is not an exception to it. So the goal of the firm is to maximise profits. Profits
and profitability play the same role in business as ‘blood’ and ‘pulse’ in the human body.

The survival of a human being is not possible in the absence of adequate blood and ability to generate blood. The same may be applied to business. It is very difficult for a firm to survive without prospects and ability to earn adequate profits. Profits and profitability are, therefore, the nerve-knot of a business and without it the existence of a firm is like a body without the back-bone. Lord Keynes has rightly remarked that ‘profit is the engine that drives the business enterprise.’

Thus, profitability is the most powerful motivational factor in any business. Whether or not a company pursues profit maximisation as its objective, the majority of users of accounts will be interested in its profitability, as to how the management will use the resources at their disposal. A profitability objective in this context according to Peter Drucker, measures not the maximum profit the business can produce but the ‘minimum’ is the rate of profit required for the desired type of investment in an enterprise. This means that there must be not only enough profit to yield the capital market rate of return on money which is already sunk in business but also to provide additional capital needed in order to cover the cost of staying in business.

Therefore, the overall objective of a business is to earn at least a satisfactory return on the funds invested in it, consistent with maintaining
a sound financial position. The task of management is the maximisation of profit. The efficiency of business is measured by the amount of profit earned; the greater the volume of profit, the more efficient is the business considered. Thus, it is the test of efficiency and -the measure of control.

2.5 IMPRTANCE OF PROFITABILITY :

Profit is a very good indicator of business performance, but the real standard of performance of a business firm cannot be judged by the absolute size of its periodic profit. For that profitability is a good device, which represent the earning of a business firm. Modern management is engaged in the task of maximizing the profit and wealth. The efficiency of management is measured by the profitability of the business; the greater is the profitability of the business, the more will be efficiency.

"An analysis of the profitability reveals as to how the position of profit stands as a result of total transactions made during the year. It need not be stressed that profitability is analysed through the computation of profit ratios. Profitability of a business firm is very much helpful to the management, creditors and share holders of business firm. The management of business firm has to take some crucial managerial decision like further expansion, raising of additional finance and problem of bonus and dividend payment etc. and for this purpose the management greatly rely-upon the profitability of the business firm."
Moreover, management can evaluate the operational efficiency of the business firm. The creditors of a business firm are also interested in the profitability of business firm. On the basis of profitability they decide their policy regarding the business firm. The share-holders are equally interested in the profitability of the company. The share-holders can take the decision weather to hold their equity share in the company or not, on the basis of profitability. Thus the management, creditors and owners of the company are equally interested in the profitability of the company.

2.6 FACTORS AFFECTING THE PROFITABILITY:

The following are the two main factors which affects the profitability of a business firm.

(1) The Operational profit Margin.

(2) The Rapidity of Turnover of capital employed. Profitability is the product of these two factors and, therefore maximum or optimum profits can be earned only by maximizing them. In technical terms, the combination of these two factors is known as the “Triangular Relationship.” Its significance exits not only in its use as an analytical tool but also because the profitability ratio can be calculated directly from the specific earnings and investment data. It is also useful in explaining the two forces bearing upon ultimate results and therefore, establishes the area of business operations which must be properly controlled if expected results are to be achieved.

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It can be shown in an equation form as under:

\[
\frac{\text{Operating Profit}}{\text{Turnover of Assets in Sales}} \times \frac{\text{Turnover of Assets in Sales}}{\text{Operating Assets}}
\]

Where “Operating Assets” are used for capital employed and income from utilization of capital employed in the business firm, respectively. The inter-relationship between the above ratio has to be understood with a view to analyzing profitability. The rate of return on investment is the result of the profit margin and turnover of assets in sales. These two components are multiplied for arriving at the profit percentage on investment. Each of these two components is itself an end product of a sequence of interrelated factors. These components are helpful in investigating the financial composition, analyzing current financial position and formulating the financial forecasting for future of a business firm. Moreover, the interrelationship can also, be well understood with the help of Du-Pont Chart.

2.7 TECHNIQUES OF THE MEASUREMENT OF PROFITABILITY:

(a) Accounting Profitability:

The state of profitability is ‘variable’ like the temperature and humidity of a day. The determination of profitability by an accountant or analyst can even be linked to temperature reading and study of humidity by a meteorologist. Just as the weather of a day is recorded in order that future prospect may be forecast, so by analysing and measuring the
profitability of any enterprise its future course of action and prospects can be planned and chalked out on the basis of its present performance.

The most important precaution in connection with the measurement of profitability is that the investment figure used should be related to its associated income figure.

The overall ‘profitability ratio has two components i.e., net profit ratio (operating profit/sales x 100) multiplied by turnover ratio (sales/capital employed). Therefore,

\[
\frac{\text{Operating Profit}}{\text{Capital Employed}} \times 100 = \frac{\text{Operating Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Capital Employed}} \times 100
\]

If a management wants to maximise its profitability, it could do so by improving its net profit ratio and turnover ratio. The former refers to the margin made in each sale in terms of percentage whereas the latter shows the utilization i.e. rotation of the capital in making the sale.

The possible ways of reducing the investment in fixed assets are as follows:

Selling or leasing back that premise which is not required, disposing of idle plants and equipments, selling of ‘unprofitable departments’, and transferring the assets of unprofitable departments to profitable ones.

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The reduction of investment in current assets may be done in the following ways:

Reducing investment in inventories by shortening the production time, improving material handling equipments or methods, reducing waiting time between each operation and reducing the level of inventory required by better inventory management, reducing investment in accounts receivable by improving or tightening the credit and collection policy, in case debtors are taking undue advantages of the credit system, and by investing the surplus ‘cash’ in the marketable securities. Thus, the assets put into maximum utilisation and ‘profitability’ can be improved.

On the other hand, the profit margin can be increased in three ways: First, by increasing sales more than operating expenses; This can be made possible by increasing sales of that product which is yielding a favourable return or by increasing the selling price per unit, without corresponding decrease in sales volume, if the company holds the position of monopoly in the market for that product.

Secondly, by reducing the cost of sales, i.e. operating expenses, more than sales, it is possible by using various means of cutting operating expenses, such as cost control and cost reduction techniques, without suffering a corresponding reduction in sales. This will increase operating earnings and thus return on investment.
Obviously, both the sequences must be satisfactory. If one sequence remains satisfactory and not the other, the return on investment will go down. Similarly, if the quality of one sequence declines, and it is essentially compensated by improvement in other sequence, the return on investment will remain the same.

Therefore, there are many opportunities for the decisions of accountants and the management to influence the reported profit from year to year with a view to serving a variety of immediate ends, because the accounting profit figures are only as good as the judgement of the person who uses them.

The existence of different methods of evaluating the assets can also affect the measurement of profit. For example, one firm may follow a straight line method of charging depreciation whereas another may charge depreciation on the diminishing value method. Depreciation affects the net margin, and ultimately also the overall profitability of a firm.

(b) **Value-Added Profitability**:

The concept of value added is a concept broader than the concept of profit. Value-added is a basic and broad measure of performance of an enterprise. In India, the presentation of value-added statement is neither statutory nor deemed to be an obligation which would otherwise have compelled the companies to compute the value added to disclose such statements in their annual reports. Nevertheless, a few companies
both in the private as well as in the public sector have made attempts and included value-added statement in their annual reports. In the absence of uniform policies and practices, the measurements of value added are subject to numerous anomalies and fallacies.

Even then, for the computation of the Value-added, profit and loss account figures are the base. Value-added is an excess of turnover plus income from services over the cost of bought-in of materials and cost of services. The term ‘turnover’ means the gross sales of goods plus duties and sales tax minus the amount of returns, goods used for self-consumption, commission, rebates and discounts etc. The term ‘income from services’ includes income in the form of dividends from subsidiary companies, rent and compensation and other miscellaneous income etc. The term ‘cost of bought-in of materials’ includes the cost of materials consumed, the cost of merchanting of materials consumed and the cost of stores and spares parts consumed during the process of manufacture. The term ‘cost of services’ includes the cost of procuring services, power, fuel, repairs and maintenance, bank commission, insurance premium, advertising and publicity, postage and telephones, printing, auditing, legal charges and travelling expenses etc.

(c) **Du Pont Chart** :

The chart was originally developed by E. I. du pont de Nemours & Company Wilmington, U.S.A. and was first put in operation in 1921, when Irenée du pont was the president of the company. The chart is one of the most successful ones yet a key device is used to aid both decision-making and performance evaluation.

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Dupont Chart

Return on Investment = \frac{Profit Margin \times Turnover}{\frac{Net Profit}{Sales}} - \frac{Cost of Sales and Expenses + Administrative, Selling Expenses}{Sales} + \frac{Current Liabilities}{Cash} + \frac{Fixed Assets + Receivables}{Inventories}
The above chart shows that a number of factors contribute to the final rate of return on capital employed. Change in any factor affects the final rate of return, 'e.g. even a slight change in selling price or cost of sales will affect the rate of return. Similarly, any change in current assets will have its effects on rate of return,

The Du Pont Chart depicts that 'Return on Investment' is the primary ratio, which reveals the relationship of profit in the investment. Moreover, the chart tells us that the primary ratio is the composite ratio of profit margin and Assets Turnover ratio or the product of profit margin (per cent) and Assets Turnover ratio. These secondary ratios can be sub-divided into various ratios and thus, the chart enables us to pinpoint the causes of changes in the rate of return.

On the turnover side of the chart, the financial analyst with the help of production and marketing people can easily trace out the ways of reducing the investments in fixed assets as well as in working capital (i.e. cash, receivables and inventories) by using the techniques of the ratio analysis, trend analysis and the like, and comparing the results with similar firms or with the industry. On the profit-margin side of the chart the effect of raising the selling price (or lowering the price to boost the sales volume) can be studied easily by marketing people. The cost accountant, assisted by purchasing agents, engineers and other operating personnel can easily search’-the ways of bringing the cost down through the inquisition of operating as well as non-operating expenses.

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This chart has now to be accepted as a strategic device for profit planning and control by top executives in business enterprises. It brings to light the various components of profit and a mere glance over the chart isolates each factor and clearly explains its respective contribution to the mechanics of the profit path leading to the ultimate goal of maximization of the return on the owner’s capital investment.

The Measurement of profitability is as essential as the earning of profit itself for a business firm. The profitability of a business firm can be evaluated or measured from number of perspectives, and there are various quantitative as well as qualitative methods that can be employed for this purpose. The following major techniques may be used to measure profitability.

[I] RATIO ANALYSIS :-

“Ratio Analysis” is one of the prevalent and the most popular technique to measure the profitability of the business firm; it is used primarily to gain an insight into financial and operating aspects of a business firm. Ratio analysis is the process of determining and presenting in arithmetical terms the relationship between figures and group of figures drawn from financial statements. A ratio may be defined as “the indicated quotient of two mathematical expression” and as “the relationship between two or more things.” The term accounting ratio, is used to describe significant relationship which exist between figures shown in financial statements profit & loss account and balance sheet.
The technique of ratio analysis involves four steps viz. determining the accounting ratio to be used, comparison of ratio with the standard set and interpretation. An analyst has to determine which ratio is to be used, and then he computes it and compares it with the standards but no such standards have been setup by the Indian Industries till today.

The interpretation of ratio requires careful & detailed study and sound judgment on the part of the analyst.

⇒ **SIGNIFICANCE OF RATIO ANALYSIS :-**

The significance of the ratio analysis depends on the purpose for which it is made by the analyst. The important points of significance are as under:

→ A useful tool in the hands of management.
→ Inter firm comparision is possible.
→ Trend analysis may be easier.

⇒ **LIMITATIONS OF RATIO ANALYSIS:**

Ratio analysis suffers from a number of draw backs :-

Difficulty in comparision due to

1. Different procedures and practice followed by different firms.
2. Different accounting periods.
3. Every firm differs in age, size, etc,
→ Price-level changes between two period.
→ Conceptual diversity.
→ Different meaning of the terms.
→ Accounting limitations.
→ Several ratio to draw conclusions.
→ Ratio analysis conveys observations.
→ Ratio may be misleading.

⇒ CLASSIFICATION OF RATIOS:-

Ratio can be classified into two different categories depending upon the basis of classification.

1. The traditional classification.
2. Classification based on nature of ratios.

(1) THE TRADITIONAL CLASSIFICATION:

The traditional classification has been made on the basis of the financial statements to which the determinates of a ratio belong. On this basis the ratio could be classified as:

(A) PROFIT AND LOSS ACCOUNT RATIO:

Ratio are calculated on the basic of the items of profit and loss account only.
(B) **BALANCE SHEET RATIO:**

Ratios are calculated on the basis of the figure of Balance Sheet only.

(C) **COMPOSITE RATIO:**

Ratio is calculated on the basis of profit and loss account as well as the balance sheet.

(2) **CLASSIFICATION BASED ON NATURE OF RATIO:**

To get the correct view of the profitability and financial soundness of a firm and to make a systematic study, Ratio are classified as under:

(A) **LIQUIDITY RATIO:**

This ratio indicates liquidity position of a company. These ratio shows the ability of a company to meet its short term obligation. Current ratio, liquidity ratio and quick or acid-test ratio are included in liquidity ratio.

(B) **LEVERAGE RATIO OR STRUCTURAL RATIO:**

These ratios are used to guide the long term financial position of the firm. This ratio indicates the funds provided by the long term creditors and owners. Leverage ratio is calculated from balance sheet items. Leverage ratios are (1) Debt equity ratio (2) Gearing Ratio (3) Debt to total capital ratio.
[C ] ACTIVITY RATIO:

Activity ratio is concerned with how efficiency the assets of the firm are managed. These ratios express relationship between level of sales and the investment in various assets. Activity ratios include (1) Inventory turnover ratio (2) Debtor turnover ratio (3) Collection period ratio

(D) COVERAGE RATIO :

The coverage ratios measure the relationship between what is normally available from operations of the firms and claims of the out-siders. Coverage ratios include (1) Interest coverage ratio (2) Dividend coverage ratio (3) Total coverage ratio

(E) PROFITABILITY RATIO :

Profitability ratios are calculated to measure the managements Overall efficiency. Several other parties like creditors, share holders, prospective investors, bankers, financial institutions and the government are also interested in analysis of the profitability of a company. Therefore the following ratios can be computed to analyse the profitability.

[ II ] COMPARATIVE AND COMMON SIZE INCOME STATEMENT ANALYSIS :

Profitability analysis is very useful on comparative basis, so, it is of paramount importance that a series of statements over a period of years should be used. Comparative and common size income statement
is the simplest technique of profitability analysis. In this technique, the figure of net sales is taken equal to one hundred and the percentage of individual items is computed likewise.

[ III ] TREND ANALYSIS:-

Trend analysis is immensely helpful in marking comparative study of the changes in an item of groups of items over a period of time and to make conclusions regarding the change in date. For this purpose, a base year is selected and the amount of the item-relating to the base year is taken equal to a hundred and Index number are computed for other years based on the amount of item relating to the base years based on the amount of that item in those years.

[ IV ] VALUE ADDED ANALYSIS:

In this method two statements are prepared to show the generation of valued added and the application of value added. Value generated is computed by subtracting the total of the cost of bought – in – materials and services from the amount of sales plus income from services, which is termed as Gross Value Added.

[ V ] OTHER TECHNOQUES OF MEASURMENTS:

Various statistical techniques are used to provide a more accurate and scientific measurement for profitability analysis. These techniques are moving average, range, standard deviation, index numbers, regression, correlation, chi-square test, ‘F’ test and analysis of time service. Diagrams and graphs are also often used in profitability analysis.
2.8 REFERENCES:


