



Reading Material

COMMERCE

Department of Commerce

ADVANCED MANAGEMENT ACCOUNTING

INTRODUCTION: Objective of Accounting is not only to keep records and prepare final accounts but also to help management in its basic functions of planning organizing, directing, controlling and co-ordination, which are more complex and complicated. Though Financial accounting is store of information, it is historical in nature and conveys useful information to the outsiders such as owners, creditors, Govt., etc but fails to communicate valuable and varied information to the Management. Similarly, Cost Accounting, which has been developed to meet the accounting needs of modern industry, is an important only to a certain extent. The business environment is fast changing and the informational needs of management have increased many a fold in volume and variety due to technological advancements, keen competition, changed economic or social values and fast changes in government thinking. Hence, the need is felt for a system of accounting that would collect, arrange and present the discharging its major functions such as planning organizing, directing, motivating, control etc. Management Accounting was born out of this need.

Management accounting is of recent origin. The term was used in 1950 by a team of Accountants council on productivity.

Unit wise details:

Meaning: Management Accounting is the study of managerial aspects of accounting. It is the process of identifying, measuring, accumulating, analyzing preparing, interpreting and communicating information that helps managers fulfill organizational objectives, and assist management in carrying out its functions more efficiently.

Definitions:

Anglo – American council on productivity –

Management Accounting is the presentation of accounting information in such a way as to assist management in the creation of policy and in the day-to-day operation of an undertaking.

Robert N Anthony:

Management Accounting is concerned with accounting information that is useful to management.

J Batty:

Management Accounting is the term used to describe the accounting methods, systems and techniques, which, coupled with special knowledge and ability, assists management in its task of maximizing profits or minimizing losses.

Form the above information it is clear that management accounting is concerned with financial data recorded, analyzed and presented to management to help it an improving the efficiency and achieving organizational goals within the scheduled time.

Characteristics / Nature of Management Accounting

Management Accounting is always concerned with collection, analysis to the management. The following are the important characteristics of management accounting.

1. **Forecasting:** Management Accounting lays more emphasis on future, although it is concerned with collection of historical data. It used the data for making protections for various situations which may occur in future. It helps the management in planning and forecasting.

2. **Providing Accounting Information:** Management Accounting is based on information collected by accounting department. The information so collected is presented in a form as to serve managerial needs and for receiving various policy decisions.
3. **Cause and effect Analysis:** Management Accounting studies the cause and effect relationship. In case of loss the reasons for loss are probed. In case of profit factors directly influencing the profitability are studied.
4. **Use of special Techniques and Concepts:** It used certain techniques such as financial planning and analysis, standard costing, budgetary control, marginal costing etc.
5. **Supplies information but not decision:** Management accounting supplies information and the decisions are taken by management, based on such information provided.
6. **No fixed norms are followed:**
7. **Accounting information is used in achieving organizational objectives.** Historical data is used for formulating plans and objectives. Actual data is compared with targeted figures, deviations if any action is taken to set right the negative deviations.

Comparative Study of Cost, Management and Financial Accounting

- 1) **Object:** Object of cost Accounting is to record cost of producing a product or providing service. Object of management accounting is to provide information to the management for planning and coordinating the activities of the business, and assist management in formulating policies and plans. Object of Financial Accounting is to record various transactions with the purpose of maintaining accounts and to know the financial position and find out profit or loss at the end of accounting year.
- 2) **Nature:**
 - Cost accounting used both past and present figures
 - Management accounting is generally concerned with protection of data for future.
 - Financial Accounting is mainly concerned with historical data.
- 3) **Compulsion:**
 - Preparation of Financial Accounts is compulsory for all organizations.
 - Management accounting is not compulsory but optional
 - Cost accounting is compulsory only in certain organizations, which are engaged in production processing and mfg activities.
- 4) **Scope:**
 - Of cost accounting is limited to ascertainment of cost
 - Of management accounting is very wide and includes budgeting, tax planning, interpretation Financial accounts reporting etc.
 - Financial accounts cover only that information which can be measured in terms of money.
- 5) **Audit:**
 - of financial statement prepared under financial accounting is compulsory in case of company.
 - management accounting is not possible
 - Cost accounting audit is compulsory under the companies act 1956, for those organizations which are required to maintain cost accounting records.
- 6) **Principles:**
 - Financial accounting is governed by generally accepted accounting principles and conventions.
 - Cost accounting has certain principles procedures and proformas for recording and analyzing data.
 - No specific rules and procedures are followed in management accounting

Marginal Costing Technique & Break – Even Analysis.

Definition of Marginal cost as per CIMA

Marginal cost is the amount at any given volume of output by which aggregate costs are changed if the volume of output is increased or decreased by one unit.

Marginal costing is the ascertainment of marginal costs & its effect on profit of changes in volume or type of output by differentiating between fixed costs and variable costs.

Marginal cost equation

$$S - V = F \pm P \quad \text{Where } S = \text{Sales} \quad V = \text{Variable cost} \\ F = \text{Fixed cost} \quad P = \text{profit}$$

Break-Even (or cost volume profit) Analysis

It establishes the relationship of costs, volume and profit in broader sense break even analysis is one which determines the profit earned at any point or level of output. In narrow sense it is to determine the break even point (no-profit, no-loss) from where profits accrue.

Contribution

The amount contributed towards fixed expenses and profit i.e., sales less variable cost.

Profit / Volume ration (P/V Ratio)

Studies the profitability of operations of a business and establishes the relationship between contribution and sales.

To improve the P/V

- Reduce variable costs
- Increase the selling price
- Produce products having higher P/V ratio

Margin of Safety

It is the level of sale over and above the break even point decrease in selling price results in

- Reduction in sales volume
- Reduction in contribution
- Reduction in P/V ratio
- Increase in break-even sales volume
- Shortening of margin of safety

Marginal costing differs from absorption costing on the ground of difference in valuation of closing stock. Marginal costing techniques values closing stock at marginal cost where as it is valued at total cost of production in absorption costing techniques.

List of Formulae:

1) Variable expenses per unit = $\frac{\text{change in cost}}{\text{change in output}}$

2) Marginal cost equation

$$\text{Sales} - \text{Variable Cost} = \text{Fixed cost} \pm \text{profit}$$

3) Contribution = Sales – variable cost.

4) P/V ratio = $\frac{\text{contribution}}{\text{sales}}$ (x 100 if or percentage)

5) Variable Cost = Sales x (1- P/V ratio)

6) Profit = (Sales x P/V ratio) – Fixed cost

7) Break even point = $\frac{\text{Total fixed expenses}}{\text{contribution per unit}}$
(in units)

8) Break even point = $\frac{\text{Fixed expenses}}{\text{P/V Ratio}}$
(in rupees)

9) Sales to earn desired profit

$$= \frac{\text{Fixed expenses} + \text{Desired profit}}{\text{Selling price per unit} - \text{Variable cost per unit}}$$

$$= \frac{\text{Fixed expenses} + \text{Desired profit}}{\text{P/V ratio}}$$

10) Margin of safety = Actual sales – Break Even sales
= $\frac{\text{profit}}{\text{P/V ratio}}$

11) P/V ratio = $\frac{\text{change in profit}}{\text{change in sales}}$ (x 100 for %)

Break Even Chart:

It provides pictorial view of the relationship between costs, volume & profit, it shows the Break even points and also indicates the estimated profit / loss at various levels of output. Break – Even chart is a point at which the total cost line and the total sales line intersect.

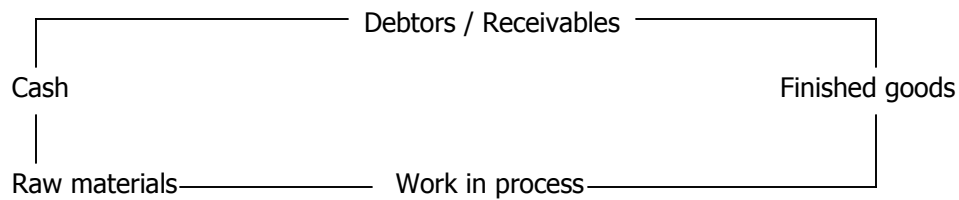
Profit volume chart:

It represent profit volume relationship, it shows profit/loss at different volumes of sales.

Uses of Marginal Costing in Decision making:

- Helps in Fixation of selling price
- Helps in selecting a suitable produce mix for maximum profit.
- Determining Break – Even point.
- Choosing from the available alternative method of production the one which gives highest contribution or contribution per limiting factor.
- Make or buy decision on the basis of higher contribution
- Taking a decision as regard to adding a new product in the market.

Working Capital or Operating Cycle:



Importance of working capital:

1. Solvency of the business
2. Good will
3. Easy loans
4. Cash discounts
5. Regular supply of Raw materials
6. Regular payment of salaries, wages and other day-to-day commitments.
7. Exploitation of favourable market conditions
8. Ability to face crisis
9. Quick and regular return on investment
10. High morale

Factors Determining working capital requirement:

1. Nature and character of Business.
2. Size of Business
3. Production policy
4. Length of production cycle
5. Seasonal variations
6. Working capital cycle
7. Rate of stock turnover
8. Credit policy

WORKING CAPITAL

Capital required for a business can be classified into two main categories i.e.,

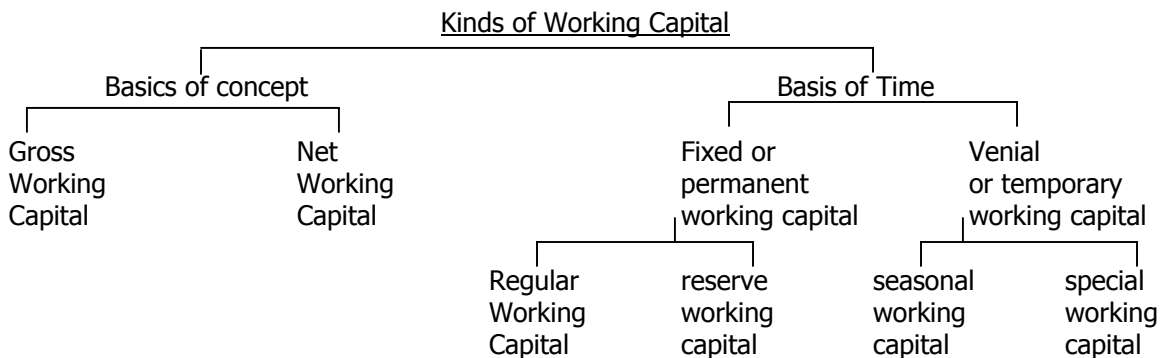
1. Fixed Capital
2. Working Capital

Working capital refers to that part of the firms capital which is required for financing short term or current assets, this keeps revolving fast and constantly converted to cash.

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There are two concepts of working capital.

- 1) Gross working capital: The capital invested in the total current assets.
- 2) Net Working capital: Current Assets – current liabilities.



Fixed working capital: Minimum amount that is required to ensure effective utilization of fixed facilities and for maintaining the circulation of current assets.

Temporary Working: Working capital required to meet seasonal demands and some special exigencies.

9. Business cycle
10. Rate of growth or business
11. Earning capacity and dividend policy
12. Price level changes.

Working capital management is 3 dimensional:

1. Concerned with formulation of policies with regard to profitability, risk and liquidity.
2. Concerned with the decisions about the composition and level of current assets.
3. Concerned with the decisions about the composition and level of current liabilities.

Statement of Working capital requirement particulars.

Particulars		Amount
<u>Current Assets</u>		
1. Stock of Raw material		
2. work in process:		
a) Raw material		
b) Direct labour		
c) Over heads		
3. Stock of finished goods:		
4. sundry debtors / receivables:		
a) Raw materials		
b) Labour		
c) Overheads		
5. Payment in advance		
6. Balance of cash		
<u>Less Current Liabilities:</u>		
7. Creditors		
8. Lay in payment of expenses		
9. any other (if any)		
working capital = A – B		
sold provisions / margin for contingencies		
Net working capital required		

CAPITAL BUDGETING

INTRODUCTION:

Capital budgeting is the process of making investment decisions in the capital expenditure. A capital expenditure may be defined as an expenditure the benefit of which is expected to be received over a period of time exceeding one year. Capital expenditure decisions are also called as long term investment decisions. In short, Capital Budgeting is a process of making decisions regarding investment in fixed assets, the benefits of which are expected to be received over a number of years in future.

DEFINITIONS:

"Capital Budgeting is long term planning for making and financing proposed capital outlays".
- T. Horngreen

"Capital Budgeting consists in planning the development of available capital of the purpose of maximizing the long-term profitability of the concern".
- R.M. Lynch

"The capital budget is essentially a list of what management believes to be worthwhile projects for the acquisition of new capital assets together with the estimated cost of each product".
- Rober N. Anthony

From the above definitions it is clear that it is the planning of available financial resources and their long-term investment with a view to maximize the profitability of the firm.

FEATURES OF CAPITAL BUDGETING DECISIONS:

- 1) It involves exchange of current funds for the benefit to be achieved in future.
- 2) The future benefits are expected to be received or realized over a series of years.
- 3) The funds are invested in non flexible and long-term activities.
- 4) It involves huge funds.
- 5) They have a long-term and significant effect on the profitability of the concern.

NEED AND SIGNIFICANCE OF CAPITAL BUDGETING:

The following are the reasons for placing great importance of capital budgeting decisions:

- 1) **Large Investment:** Capital budgeting decisions generally involve large investment of funds, but the funds available with the firm are always limited. Hence it is very important for a firm to plan and control its capital expenditure.
- 2) **Irreversible Decisions:** The capital budgeting decisions are irreversible decisions and the amounts invested cannot be taken back without a substantial loss as it is difficult to dispose them off and its conversion into other uses may not be financially feasible.
- 3) **Long term effect on profitability:** Capital budgeting decisions have a long-term and significant effect on the profitability of a concern. Not only the present earning of the firm are affected by the investment in fixed assets but also the future growth and profitability of the firm depends on the investment decisions taken today.
- 4) **Long term commitment of funds:** Capital expenditure involves not only large amount of funds for long term and more or less on permanent basis. The long term commitment of funds increases the financial risk involved in the investment decisions greater the risk involved, greater the need for careful planning of capital expenditure.

- 5) **Effect on future capital structure:** By taking a capital expenditure decision, a firm commits itself to a sizable amount of fixed costs in terms of labour, supervisor's salary, insurance, rent of building etc., and if the investment in future turns out to be unsuccessful the firm will have to bear the burden of fixed costs unless the assets is completely written off.
- 6) **National importance:** Capital budgeting decisions are of national importance because it determines employment opportunities, economic activities and economic growth.
- 7) **Other factors:** Such as uncertainties of future, higher degree of risk involved etc.,

TYPES OF INVESTMENT PROPOSALS:

- 1) New projects.
- 2) Expansion: that is increasing production.
- 3) Diversification: diversifying production into other lines of business.
- 4) Replacement: Replacing old worn-out machines and other assets which are outdated.
- 5) Modernization: Using latest technology in various activities of organization.
- 6) Research and development

ELEMENTS TO BE CONSIDERED WHILE SELECTING THE PROCESS AND CRITERIA FOR EVALUATION OF THE SPECIFIC PROJECT

- 1) **Rationale:** It is essential to look at the broad rationale of the project or proposal to ensure that the project is appropriate and justified.

Ex: Modernization and pollution control may be fully justified on the grounds of survival and environmental projection.

- 2) **Technology:** The level of technology in terms of state-of-art or obsolescence, adaptability to the local conditions, sophistication etc., is to be considered. While assessing a technology proposed for the project relevance and appropriateness have to be looked, ridiculous.

Ex: Highly sophisticated technology seems to be ridiculous when electricity and other sources of power are in short supply.

- 3) Plant and machinery to be installed.

- 4) **Raw materials required:** For the project.

- 5) **Cost of project:** Since each project is profit motivated it is important that the cost of the projects carefully assessed and evaluated. This depends on proper data collection and the approach & attitude of the evaluator which influences the level of accuracy in the cost estimates.

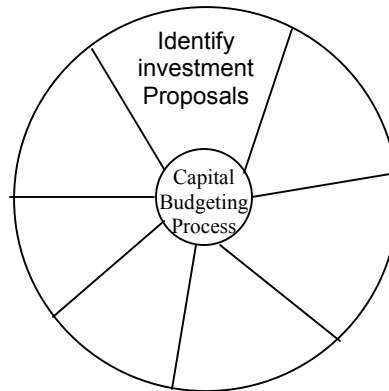
- 6) **Means of financing:** In the manner in which is acceptable with in the framework of the financial system, attractive and safe for the investor is to be evolved.

- 7) **Anticipated return of the project:** The project return is to be assessed in terms of cost of production, realizable selling price, financial charges etc.

- 8) **Government and other statutory approvals required:** Regarding import of capital goods, import of raw materials, pollution control etc.
- 9) **Social and environmental conditions:** Like safety, environmental protection etc.
- 10) **National economic significance:** Like import substitution, export orientation etc.,

CAPITAL BUDGETING PROCESS

Capital budgeting is a complex process and the following procedure may be adopted in the process of capital budgeting.



- 1) **Identification of investment proposals:** The idea or proposal about potential investment opportunities which may originate from the top management or from the rank and file workers of any department or from any officer of the organization are to be analyzed by the departmental heads in the light of corporate strategies. After analysis suitable proposals are to be submitted to the capital expenditure planning committee or to the officer concerned with the process of long term investment decisions.
- 2) **Screening the proposals:** The committee or the officer concerned with long term decisions screen the proposals received from different departments, from various angles to ensure that they are in accordance with the long range policy frame work of the organization or selection criterion of the firm and also do not lead to departmental imbalances and are profitable.
- 3) **Evaluation of various proposals:** The next step is to evaluate the profitability of the proposals in terms of cost of capital, expected return from alternative investment opportunities etc. The following methods of evaluation can be applied to evaluate the proposals.
 - a) Traditional Methods:
 - (i) Pay back period method
 - (ii) Accounting rate of return method.
 - b) Discounted cash flow techniques:
 - (i) Net present value method,
 - (ii) Internal rate of return method,
 - (iii) Profitability index method

- 4) **Fixing priorities:** Uneconomical and unprofitable projects shall be rejected. The acceptable projects shall be ranked since it is not possible to invest in all the proposals due to limitation of funds. Priorities are to be established on considering urgency, risk and profitability involved therein.
- 5) **Final approval and preparation of capital expenditure budget:** Proposals meeting evaluation criteria are finally approved and sent to budget committee to be included in the capital expenditure budget. Minor projects may be approved by the lower level management, whereas the bigger projects may be approved by the top management.
- 6) **Implementing proposals:** While implementing the project assign responsibilities for completing the project within the given time frame and cost limit so as to avoid unnecessary delays and cost overruns.
- 7) **Evaluation / performance review:** After implementation of the project it has to be evaluated by way of comparison of actual expenditure with the budgeted one, and also by comparing the actual return from the investment with the anticipated return.

Un-favourable variances if any found, the same should be looked into and the causes of the same be identified so that action may be taken in future.

METHODS OF EVALUATION OF INVESTMENT PROPOSALS

I. TRADITIONAL METHODS

- 1) **PAY-BACK PERIOD METHOD:** It is the most popular and widely recognized method of evaluating capital projects. This method is also known as pay-out or pay-off method. Pay back period represents, the period of time required to recover the original cash outlay invested in the project. It is based on the principle that every capital expenditure pays itself back within a certain period out of additional earnings generated from the capital assets. In other words, pay-back period is that period where total earnings (net cash inflows) from capital investment equals the total outflow.

Decision Criteria: In case of evaluation of single project, accept the project, if the pay back period is within the period specified by the management, otherwise reject the project.

Accept if $PB < \text{Minimum Pay-Back period}$

Reject if $PB > \text{Minimum Pay-Back period}$

In case of number of mutually exclusive projects, which satisfy the above criteria individually, rank them according to the length of the pay back period, in such a way that the investment with shorter pay-back period is preferred to one which has a longer pay-back period.

Calculation to pay back period:

- 1) Calculate net earnings before depreciation but after tax, as given below:

Gross cash inflows	
Less operating expenses including depreciation	
Net income before tax	
Less income tax	
Net income after tax	
Add: Depreciation	
Net cash inflows	

- 2) Where the project generates constant cash inflows:

$$\text{Pay Back period} = \frac{\text{Cash outlay of the project}}{\text{Annual cash inflows}}$$

- 3) Where the project generates unequal cash inflows find cumulative cash inflows until total is equal to the initial cash out lay.

$$P = E + \frac{B}{C}$$

Where P = Pay – back period
E = Number of years preceding the year of final recovery
C = Cash flow during the year of recovery

Advantages:

- 1) This method is simple to understand and easy to calculate.
- 2) It saves in cost, as it requires less time and labour as compared to other methods of capital budgeting.
- 3) It is suitable to a firm to which has shortage of cash or whose liquidity position is not good.
- 4) Since a project with shorter payback period is preferred to the one having longer payback period, it reduces loss through obsolescence.

Disadvantages:

- 1) This method does not take in to account cash inflows earned after the payback period and hence the true profitability of the projects cannot be correctly assessed.
- 2) It ignores the time value of money and does not consider the pattern of cash inflows i.e magnitude and timing of cash inflows.
- 3) It does not take in to account the cost of capital which is very important factor in making sound investment decisions.
- 4) There is no rational basis for determining the minimum pay back period that is acceptable.
- 5) Profitability is completely ignored by laying overemphasis on the importance of liquidity.