UNIT-IV

CAPITAL AND CAPITAL BUDGETING

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Definition of capital:

"According to economist, the capital is the value of total available with the business".

"According to an accountant, the capital is the difference between the assets and liability".

"According to finance the capital is the total amount of finance required by the business to conduct its business operations both in the short run and long run".

In general terms which is the amount useful to starts the business and run the business man in to the organization is called as capital.

Significance or Need for capital:

Capital plays a very significance role in the modern production system. It is very difficult to imagine the process the process of production without capital. The business needs for capital are varied. They are:

1. **To promote a business:** Capital is required at the promotion stage. A large variety of expenses have to be incurred on project reports, feasibility studies and reports, preparation and filing of various documents and for meeting various other expenses in connection with the raising of capital from the public.
2. **To conduct business operations smoothly:** Business firms also need capital for the purpose of conducting their business operations such as research and development, advertising, sales promotion, distribution and operating expenses.

3. **To expand and diversity:** The firms require lot of capital for expansion and diversification purposes. This includes development expense such as purchase of sophisticated machinery and equipment and payment towards sophisticated technology.
4. **To meet contingencies:** A firm needs funds to meet contingencies such as a sudden fall in sales, major litigation, natural calamities like fires.
5. **To pay dividends and interrupt:** The firm has to meet its statutory such as income tax and sales tax, excise duty and so on.
6. **To pay dividends and interest**: The business has to make payment towards dividends and interest to share holders and financial institutions respectively.
7. **To replace assets:** The business needs to replace the assets like plant and machinery after certain period of use. For this purpose the firms need funds to make suitable replacement of assets in place of old and worn out assets.
8. **To support welfare programs:** The Company may have to take up social welfare programs such as literacy drive, and health camps. It may have to donate to charitable trusts, educational institutions or public service organizations.
9. **To wind up:** At the time of winding up, the company may need funds to meet the liquidation expenses.

Types of capital

Capital can broadly divided into two types:

I. Fixed capital
II. Working capital

I. Fixed capital: Fixed capital is that portion of capital which is invested in acquiring long term assets such as land and buildings, plant and machinery, furniture and fixtures and soon. Fixed capital forms he skeleton of the business. It provides the basic assets as per the business needs. The assets are not generating revenues.

The following are the features of fixed assets:

1. Permanent in nature.
2. Profit generation.
3. Low liquidity.
4. Amount of fixed capital.
5. Utilized for promotion and expansion.

TYPES OF FIXED ASSETS:

A. Tangible fixed assets: These are physical items which can be seen and touched. Most of the common fixed assets are land, buildings, machinery, motor vehicles, furniture etc.

B. Intangible fixed assets: These do not have physical form. They cannot be seen or touched. But these are very valuable to business.

Ex; Goodwill, brand names, trademarks, patents, copy rights etc.

C. Financial fixed assets: These are investments in shares, foreign currency deposits government bonds, shares held by business in other companies

II. Working capital:

Working capital is the flesh and blood of the business. It is the portion of capital that makes a company work. It is not just possible to carry on the business with only fixed assets. Working capital is must. Working capital is also known as circulating capital.

"Which is the amount we require to fulfill day-to-day financial obligations of the company is called as working capital"

"The day-to-day financial obligations or the regular needs refer to the purchase of material, payment of wages and salaries, expenses like rent, advertising, power Etc…

Features of working capital:

1. **Short life span:** Working capital changes its form from cash to stock, stock to debtors, debit or cash. Ra w materials are held for a short time until they go into production, finished goods are held for a short for a short time until they are sold.
2. **Smooth flow of operations:** Adequate amount of working capital enables that business to conduct its operations smoothly. It is therefore called as the 'flesh and blood' of the business.
3. **Liquidity:** The assets represented by the working capital can be converted into cash quickly within a short period of time unlike fixed assets.
4. **Amount of working capital:** The amount of working capital of a business depends on many factors such as size and nature of the business, production and marketing policies, business cycles and so on.
5. **Utilized for payment of current expenses:** The working capital is used to pay for current expenses such as suppliers & raw materials, payment of wages and salaries, rent and other expenses and so on.

Components of working capital

From the accounting point of view, working capital is the difference between current assets and current liabilities.

Working capital=current assets-current liabilities

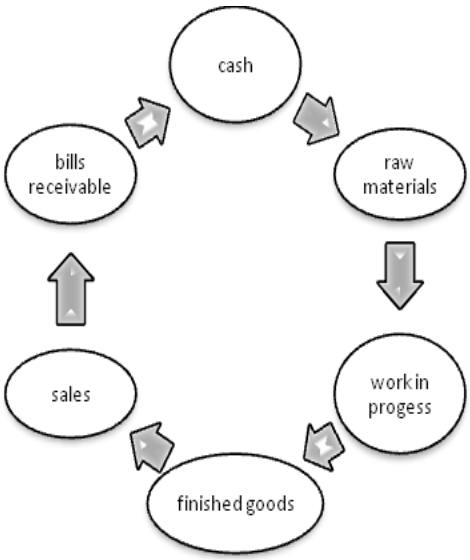
Current assets:

* Cash
* Raw materials
* Finished goods
* Debtors
* Prepaid expenses
* Bills receivable
* Marketable security

Current liabilities:

- Creditors
- Salaries
- Wages
- Taxes
- Bills payable etc.

Working capital cycle (or) current assets cycle:



Factors determining the requirements of working capital:

1. **Promotional and formation stage**: If the business is in formation stage, it may require more funds for launching the project.
2. **Position of business cycle**: The changes in the have to be watched carefully. The economy is subject to ups and downs in the business activity. The upward swing is associated with spurt in sales and increase in levels in inventory and debts. During the period, the business may require relatively larger funds.
3. **Nature of business**: The nature of business has a profound effect on the volume of working capital. In general, manufacturing companies require less working capital when compared to the trading organizations. For instance, super markets require large working capital.
4. **The length of manufacturing cycle**: Longer the manufacturing cycle is more is the requirement of working capital. Length of manufacturing cycle refers to the time taken from the point of first stage to the last stage of the manufacturing process.

5. **Terms and conditions of purchase and sale**: If the firm buys the raw materials for the credit and sells the finished goods for cash, it can manage with the lower volume of working capital. It is necessary to monitor the accounts receivable and accounts payable.

6. **Bottlenecks in the supply of raw materials**: The more the bottlenecks, the more need for working capital.

7. **Fluctuations in the demand**: Seasonal fluctuations are common phenomenon for most of the types of business. The demand forecasting exercise is done at the beginning of the year will provide a basis to determine the need for working capital during the months of season and off-season.

8. **Production policies**: It is better to produce the main product during the peak season.

9. **Degree of competition**: Where there is a high degree of competition, product of large variety has to be offered at competitive terms and conditions. All these means a drain on the working capital resources. 'Buy now and pay later 'schemes no doubt increase the sales.

10. **Growth and expansion plans**: Growth and expansion are two different phenomena. Growth means increasing the scale of operations of say one product where as expansion set up to setting up more branches or additional products to the existing product mix and so on. If the company plans for growth and expansion it has to find additional working capital.

11. **Profit margin**: Higher profit margins contribute to higher volumes. When it is retained in business, profit is the significant source of working capital.

METHODS AND SOURCES OF FINANCE

The source of finance would be where the money was obtained from a bank while the mortgage may be obtained from a critic society.

I. Long-term finance
II. Medium-term finance
III. Short-term finance

I. Long-term finance: Long term finance refers to that finance available for a long period say three years and above. The long term methods outlined below are used to purchase fixed assets such as land and buildings etc.

1) Own capital: Irrespective of the form of organization such as sole trader, partnership of a company, the owners of the business have to invest their own finance to start with. Money invested by the owners, partners or promoters is permanent and will stay with the business throughout the life of the business.

2) Share capital: Normally in the case of company, the capital is raised by issue at shares. The share holder is emitted to dividend in case the company makes profits. The share capital can be of two types:

a) Preference share capital
b) Equity share capital

a) Preference share capital: The preference shares are the shares issued by the company to the prospective share holders at a fixed rate of dividend. A preference a preference share holder enjoys two rights over equity share holders. They are: 1. Right to receive fixed rate of

dividend and 2. Right to return of capital. Preferences share holders do not have any voting right in the annual general meetings of the company.

b) Equity shares: Capital raised through issue of equity share is called as ordinary share. Equity shares are the shares issued by the company to the prospective shareholders with voting. They are the real owners to the company.

3. **Retained profits**: the retained profits are the profits remaining after all the claims. They form a very significant source of finance. Retained profits from good source of working capital.
4. **Long term loans:** These are specialized financial institutions offering long term loans provided the business proposal is feasible. The promoters should be able to offer assets to offer assets of the business as security to avail of this source.
5. **Debentures**: Debenture is a certificate acknowledging the money lends by the debenture holder to the company at a fixed rate of interest. The debentures are of different types based on the terms and conditions.
6. **Government grants and loans**: Government may provide long term finance directly to the business houses or by indirectly subscribing to the shares of the companies. The government gives loans only if the project satisfies certain conditions.

II. Medium term finance: Medium term finance refers to such sources of finance where the repayment is normally over one year and less than three years. This is normally utilized to buy or loose motor vehicles, computer requirement etc… They are:

1) **Bank loans**: Bank loans are extended at a rate of interest
2) **Leasing or Renting:** When there is a need of fixed assets, the asset need not be purchased. It can be taken on lease or rent for specified number of years.
3) **Venture capital:** This form of finance is available only for limited companies. Venture capital is normally provided in such projects where there is relatively a higher degree of risk. For such projects, finance through the conventional sources may not be available. Many banks after such finance through their merchant banking divisions.

III. Short term finance: Short term finance is that finance which is available for a period of less than one year. The following are the sources of short term finances:

1) **Commercial paper(CP):** It is a new money market instrument introduced in India in recent times. Cp's are issued usually in large denominators by the leading, nationally reputed, highly rated and credit worthy, large manufacturing and finance companies in the public and private sectors.
2) **Bank overdraft**: This is a special arrangement with the banker where the customer can draw more than what he has in his savings/current account subject to a maximum limit. Interest is changed on a day-to-day basis on the actual amount overdrawn. This source is utilized to meet the temporary shortage of funds.
3) **Trade credit:** This is short term credit facility extended by the creditors to the debtors. Normally, it is common for the traders to buy the materials and other supplies from the

supplies on credit basis. After selling the stocks, the traders pay the cash and buy fresh stocks again on credit.

4) **Advance from customers**: It is customary to collect full or part of the order amount from the useful to meet the working capital needs.
5) **Internal funds**: Internal funds are generated by the firm itself by way of secret reserves, depreciation provisions, taxation provisions, retained profits and so on and these can be utilized to meet the urgencies.

CAPITAL BUDGETING

"Capital budgeting is the long term investment decision for functioning of acquires, upgrades, replaces the assets such as land and buildings, plant and machinery and different types of long term projects."

"According to Charles T Horngren "Capital budgeting is the long term planning to make and finance proposed capital analysis."

"The capital budgeting decisions involve long term planning for selection and also financing the investment proposals. Capital budgeting is the process of evaluating the relative worth of long term investment proposals on the basis of their respective profitability.

NATURE OF CAPITAL BUDGETING:

Nature of capital budgeting can be explained in brief as under:

- Capital expenditure plans involve a huge investment in fixed assets.
- Capital budgeting decisions involve the exchange of current funds for the benefits to be achieved in future.
- The future benefits are expected and rate to be realized over a series of years.
- The funds are invested in non-flexible long term funds.
- Preparation of capital budget plans involve forecasting of several years profits in advance in order to judge the profitability of projects.
- In view of the investment of large amount for a fairly long period of time, any error in the evaluation of investment projects, may lead to serious consequences, the problem will be followed a series of years.

SIGNIFICANCE OF CAPITAL BUDGETING:

Capital budgeting assumes special significance for the following reasons:

i. **Substantial capital outlays**: Capital budgeting decisions involve substantial capital outlays.
ii. **Long term implications**: Capital budgeting proposals are of longer and hence have long term implications. For instance the cash flows for next 5 to 15 years have to be forecast.

iii. **Strategic in nature**: Capital budgeting decisions can affect the future of the company significantly as it constitutes the strategic determinant for the success of the company. A right investment decision is the secret of the success of many business enterprises.

iv. **Irreversible**: Once the funds are committed to a particular project, we cannot take back the decision. If the decision is to be reversed, we may have to lose a significant portion of the funds already committed. If many involve loss of time and efforts. In other words, the capital budgeting decisions are irreversible or may not be easily reversible.

SCOPE OF THE CAPITAL BUDGETING:

- Construction of new building.
- Renovation of existing building.
- Purchase of technology from a foreign country.
- Building a production facility.
- Buying a new delivery truck.
- Building a bridge.
- Making a new product.
- Starting a new business.
- Expansion decision of existing plant and equipment.
- Labor agreements.

PROCESS OF CAPITAL BUDGETING:

In capital budgeting process, main points to be borne in mind how much money will be needed of implementing immediate plans, how much money is available for its completion and how are the available funds going to be assigned to various capital projects under consideration. the financial policy and risk policy of the management should be clear in mind before proceeding to the capital budgeting process. The following procedure may be adopted in preparing capital budget.

1. **Organization of investment proposal**: The first step in capital budgeting process is the conception of a profit making idea. The proposals may come from rank and file worker of any department or from any line officer. The department head collects all the proposals and reviews them in the light of financial and risk policies of the organization in or to send them to the capital expenditure planning committee for consideration.

2. **Screening of proposals**: In large organizations, a capital expenditure planning committee is established for the screening of various proposals received by it from the heads of various departments and the line officers of the company. From the heads of various departments and the line officers of the company the committee screens the various proposals within the long-range

policy-frame work of the organization. It is to be ascertained by the committee whether the proposals are within the criterion of the firm, or they do no lead to department imbalances or they are profitable.

3**. Evaluation of projects**: The next step in capital budgeting process is to evaluate the different proposals in term of the cost of capital the expected returns from alternative investment opportunities and the life of the assets with any of the following evaluation techniques

- Degree of urgency method (Accounting rate of return method)
- Pay-back method
- Discounted cash flow method

4. **Establishing priorities**:- After proper screening of the proposals, uneconomic or unprofitable proposals are dropped. The profitable projects or in other words accepted projects are then put in priority. It facilitates their acquisition or construction according to the sources available and avoids unnecessary and costly delay and serious and cot-overruns. Generally, priority is fixed in the following order.

- Current and incomplete projects are given first priority.
- Safety projects and projects necessary to carry on the legislative requirements.
- Projects of maintaining the present efficiency of the firm
- Projects for supplementing the income
- Projects for the expansion of new product.

5. **Final approval**:- proposals finally recommended by the committee are sent to the top management along with the detailed report, both of the capital expenditure and of the sources of funds to meet them. The management affirms its final seal to proposals taking in view the urgency, profitability of the projects and the available financial resources. Project are then sent to the budget committee for incorporating them in the capital budget.

6 **Evaluation**:- Last but not the least important step in capital budgeting process is an evaluation of the program after it has been fully implemented. Budget proposals and the net investment in the projects are compared periodically and on the basis of such evaluation, the budget figures may be reviewer and presented in a more realistic way.

Kinds of capital Budgeting Decisions

1. Replacement
2. Expansion
3. Diversification
4. Research and development

METHODS OF CAPITAL BUDGETING

Capital budgeting decision is made under different criteria. How are these criteria determined? These criteria differ in concepts. Some use thumb rules and some use logic and scientific approach. So based on these criteria, the methods of capital budgeting can be classified as

1**. Traditional methods**

a. Payback Period

b. Accounting Rate of Return

2. Discounted cash flow methods or modern methods

a. Internal Rate of Return (IRR)

b. Net Present Value (NPV)

c. Profitability Index (PI)

PAYBACK PERIOD

Payback period is the time period which we require to recover our initial investment.

Payback period refers to the period within which the original cost of the project is recovered. It is calculated by dividing the cost of the project by the annual cash inflows.

Payback period = cost of the project

Annual cash flows

The shorter the length of the payback period, the better is the project in terms of paying back the original investment particularly where the future is uncertain the companies favour this method the better it is in terms of safety and liquidity.

Where the cash flows are uniform (even) throughout, then we can measure the payback period like.

Payback period= cost of the project

Annual cash flows

Where the cash flows are uneven

Payback period = based year + amount to be recouped

Next year cash flows

ADVANTAGES

1) **Easy to calculate an understand**:- calculation of payback period does not involve any complicated formulae. It is easy to calculate and understand.

2) **Liquidity is emphasized**:- it emphasizes on the earlier cash flows which are more likely to be accurate than later cash flow, in other words a short payback period also reduces the risk.

3) **Reliable technique in volatile business conditions**:- it is a reliable technique for projects appraisal, particularly in the areas of volatile business conditions such as change in technology, changing fashions or customers fasts /preferences.

DISADVANTAGES

1) **post-payback earnings ignored**:- This method ignores the earnings after the payback period. It ignores the total life of the project and the total profitability of the investment.

2)**Timing of cash flows ignored**:- This method does not consider the timing of cash flows, all the cash flows are given equal weight age.

3) **Liquidity is over-emphasized**:- The liquidity of the proposal is over-emphasized by choosing only the cash inflows. Other factors such as cost of the proposal or cost of the proposal are ignore.

Despite the above limitations the payback method continues to be very popular and widely put to use particularly where there is a high degree of uncertainty.

ACCOUNTING RATE OF RETURN

Accounting rate of return refers to the ratio of annual profits after taxes to the average investment. The average investment equal to half of the original investment. According rate of return is also called average rate of return.

ARR = Average income

Average investment

Where the average investment is half of the outlay. Average capital employed is calculated to the usual accounting convention that the original investment gets exhausted steadily to zero over the life of the project.

It is assumed that the asset is depreciated as per straight line method usually it is expressed in terms of percentage. The higher the ARR is the better is the profitability and hence the projects with higher accounting rate of return are short listed for implementation.

ADVANTAGES

1) It is easy to understand and calculate.

2) It can be compared with the cutoff point of return and hence the decision to accept or reject is made easier.

3) It considers all the cash inflows during the life of the projects, not like payback method.

4) It is a reliable measure because it considers net earnings after depreciation interest and taxes.

DISADVANTAGES

1. The concept of time value of money is ignored.

2. Unless we have a cutoff point of return, accounting rat of return cannot be meaningful and effective.

3. The average concept is not reliable particularly in terms of high or wild fluctuations in the returns.

4. The average concept dilutes the profitability of the project.

DISCOUNTED CASHFLOW METHODS

Discounted cash flows are the future cash inflows reduced to their present value based on a discounting factor. The process of reducing the future cash inflows to their present value based on a discounting factor or cut-off return is called discounting.

NET PRESENT VALUE

Net present value refers to the excess of present value of future cash inflows over and above the cost of original investment.

NPV=(PVcFAT) MINUS (PVc)

Where

PVcFAT refers to the present value of cash flows after taxes.

PVc refers to the present value of original investment or capital

The concept of NPV is a logical extension to the concept of present value. Here the decision is based on the size of net present value. The projects with higher NPV'S are selected. If the NPV is negative, that means the projects is not profitable.

In other words, the NPV should always be positive and should be maximum. The present value factor tables are used here to determine the present value of the future cash inflows.

HOW IS NPV CALCULATED?

The following are the stages in the determination of NPV

1) From the PV factor table, identify the PV factors of Re 1 for the given discount rate.

2) Multiply the cash flows with the corresponding PV factor to find the product

DCF=(PV)*(CFAT)

3) Find the sum of products.

4) If the sum is positive, that means the project is profitable. In case of projects with different NPV'S choose the project with higher NPV because the higher the NPV, the higher is the profitability.

ACCEPTANCE RULE

According to NPV method the project should be accepted, if the NPV is positive or equal to zero. If the NPV is negative the project should be rejected.

NPV>1 which means that the project earns more than the discount rate.

NPV =1 which means that the project earns the same as the discount rate.

NPV<1 which means that the project earns less than the discount rate.

ADVANTAGES

1. since the PV factor tables are available determination of NPV is relatively easier. It is easy to understand.

2. The goal of the financial management is wealth maximization and this method enables the finance manager to pursue this goal.

3. It is based on the concept of time value and considers the total earnings and expenses of the project.

4. NPV is a superior technique to IRR in case of mutually exclusive proposals.

5. Each project can individually be evaluated.

DISADVANTAGES

1. It is difficult to determine the appropriate discount rate.

2. The calculations are easier when compared to IRR, but is beyond the comprehension of a common businessman

3. It does not indicate the cost of capital.

4. Where projects differ in their duration and their cash flows, this method cannot be used. (It is her profitability index is used)

INTERNAL RATE OF RETURN

Internal rate of return is that rate of return at which the present value of expected cash flows of a project exactly equals the original investment. In other words, it equals the present value of a given project with its outlay. This is the cut –off point at which the income equals the expenditure or the investment breaks even.

At IRR, the net present value of a project is zero. The net present value refers to the excess of the present value of the future cash flows over and above the original investment.

EVALUATON OF IRR:

The internal rate of return is compared with the cost of the capital. If the IRR is more than the cost of the capital the project is profitable otherwise it is not where there are two projects with different IRR'S select the project with higher IRR.

ADVANTAGES

1. IRR is based on the time value of money.

2. It is based on the earnings of all the years of the project.

3. It is a valuable tool to compare the projects with different cash flows and different life span.

4. It is independent of cost of capital.

5. Such projects with higher IRR are recommended. Hence it directly contributes to the "wealth maximization goal" of the finance manager.

DISADVANTAGES

1. It is difficult to understand and tedious to calculate IRR by even trial and error.

2. It is based on certain assumptions one of which is that the intermediate cash flows are reinvested at IRR. This assumption may not hold good.

3. There could be cases of non-conventional projects with multiple IRR'S which are difficult to understand.

4. There are cases where higher IRR does not necessarily contribute to wealth maximization.

PROFITABILITY INDEX

This is the ratio of the present value of cash inflows and the present value of cash outflows. It is used to indicate the profitability at a glance.

Where the projects differ in their duration and the cash flows these can be compared based on the profitability index.

INTERPRETATIONS

If the profitability index is less than one reject the proposal.

If the profitability index is equal to one, the proposal is just break eve.

If the profitability is more than one accept the proposal.

The higher the index, the more profitable the proposal is

ADVANTAGES

1. It is easy to calculate given the present values of cash flows.
2. Projects of different magnitude in terms of duration and cash flows can be short listed based on their profit is recommended for use particularly when there is shortage of funds because it correctly ranks the proposal.

LIMITATIONS OF CAPITAL BUDGETING

Uncertainty in the future: The capital budgeting proposals are invested with the uncertainty in the future .All data is used in evaluation of proposals is the estimates .the data is error phone more with human judgment, bias or discretion in the identification of cash inflows and outflows. Even advanced capital budgeting techniques such as sensitivity analysis cannot be useful if the data is erroneous.

Qualitative factors ignored: in capital budgeting, we consider only such factors which can be qualified in terms of money. factors such as improved morale employees as a result of implementation of proposals are not focused the other factors in the business environment such as social, political, economic conditions and …….,are not reflected.

Volatile business conditions: the factors influencing investment decision include

a) The technological advancements ,government policies(such as fiscal policy, monetary policy)sales forecast ,attitude of management(conservative &progressive),estimated cash flows, discount factor &rate of return.

Unrealistic assumptions: There are certain unrealistic assumptions underlying capital budgeting processes they are

1. There is no risk in uncertainty in the business environment this is not correct the future of business is full of uncertainty &we apply the management techniques to minimize the risks.

2. The cash flows are received in lump sum at the end of given period .

3. The key variables such as sales revenue, cost, price or investment&….are taken based on past data particularly in terms of rising prices , these seldom hold good for future.

4. The cost of the capital & discount rate are one and the same.