KLE LAW ACADEMY BELAGAVI

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STUDY MATERIAL

for

FINANCIAL MANAGEMENT

Prepared as per the syllabus prescribed by Karnataka State Law University (KSLU), Hubballi

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FINANCIAL MANAGEMENT

II Year B.Com LLB and BBA LLB - Syllabus

Objectives:

The course intends to highlight capital structure and market with long term and short term debts. The nerve centre of every business set up is its financial management. Fundamentals of Financial Management are examined in its entirety. The course also tries to explain the F.M. of MNCs besides, mergers and acquisitions.

Course contents:

UNIT - I

Cost of Capital: Cost of Equity – Short and Long Term Debts – Cost of Short – Term Borrowing – Capital Market Hypothesis: Derivation of Sharpe Lintner – Empirical Evaluation of the Model.

UNIT - II

Capital Structure Hypothesis: Traditional Proposition V/s. Modigiani Proposition – Empirical Evaluation of Prepositions – Dividend Policy Decisions – Factors Affecting Dividend Policy – Traditional Proposition V/s M Hypothesis – Empirical Evaluation of Different Hypothesis – Types of Dividend Policies.

UNIT - III

Working Capital Management: Optimal Investment in Short Term Assets like Inventory – Debtors – Securities and Cash – Determination of Optimal Sources of Funds.

UNIT - IV

Financial Management of Multi-national Corporations: Factors Peculiar to Multi-Nationals – Decision Areas – Working Capital – Management Accounting – Capital Budgeting – Capital Structure and Dividend Policies – Case Studies.

UNIT - V

Mergers and Acquisitions: Types of Characteristics – Valuation – Deed Structuring – Managerial State- Regulation – Environment – case Studies.

Reference Books:

1. Mao, James C. T – Quantitative Analysis of Financial Decisions – (Mc. Milan)

2. Khan, M. V. and Jain – Financial Management – Tata Mc Graw Hill

3. Paney. I. M. – Financial Management – Delhi, Vikas Publishing House.

CONTENT

UNIT-1

INTRODUCTION FINANCIAL MANAGEMENT

INTRODUCTION:

Finance is the life blood and nerve center of a business, just as circulation of blood is essential in the human body for maintaining life; finance is very essential for smooth running of the business. Finance plays a significant role in all types of businesses whether it is big, medium or small. Without finance one cannot start up business or survive. In order to setup a business enterprise finance is needed which can be obtained from various sources such as bank loan, venture capital, own funds, investors funds, etc.

Once the funds are obtained it used for purchasing assets, further finance is required to meet day to day requirements in terms of managing various costs incurred in routine operations such as payment of rent, salaries, and other obligations such as expansion of business. Therefore finance is an essential aspect of an enterprise for running and maintaining the business efficiently and effectively.

CLASSIFICATION OF FINANCE:

1. Public Finance: Public finance deals with role of the government in managing financial requirements of the economy. This includes procuring funds from various resources of the economy in an appropriate manner; some of the common sources of funds of government include tax and non-tax revenues. After generation of funds from various sources these funds are used to meet expenditures such as national defence, public welfare and infrastructure development. Thus funds generation, funds allocation and expenditure management are the essential components of a public finance.

2. Personal Finance: Personal finance deals with monetary decision and activities of an individual or a family unit that includes routine income and expenses planning, retirement planning, tax planning, investment and wealth accumulation goals. Thus, personal financial planning process involves successfully meeting financial needs of life through proper

management of finances. It is a person‟s road map to financial health and sustainable wealth creation.

3. Corporate Finance: Corporate finance also called as **Business Finance** and its focus is concerned with planning, raining, investing and monitoring of fiancé in order to achieve the financial objectives of the company. Thus, business finance deals with financing decisions on how firms raise money from investors, how firms invest money in an attempt to earn a profit, and how they decide whether to reinvest profits in the business or distribute them back to investors.

Meaning of Business Finance: Business finance is that business activity which is concerned with the acquisition and conservation of capital funds in meeting financial needs and overall objectives of a business enterprise. In other words, it refers to the process of raining, providing and administering of money used in a business concern.

Definition of Business Finance: Wheeler defines business finance as "That business activity, which is concerned with the acquisition and conservation of capital funds in meeting the financial needs and overall objectives of business enterprise".

Thus Financial Management is all about planning, organizing, directing and controlling the financial activities such as procurement and utilization of funds of the enterprise. It means applying general management principles to financial resources of the enterprise.

DEFINITION:

- "Financial management is the operational activity of a business that is responsible for obtaining and effectively utilizing the funds necessary for efficient operations."**- Massie and Joshep**
- " FM deals with procurement of funds and their effective utilization in the business" **- S C Kuchal**

SCOPE/ELEMENTS:

- **Investment decisions-** includes investment in fixed assets (called as capital budgeting). Investment in current assets are also a part of investment decisions called as working capital decisions.
- **Financial decisions** - They relate to the raising of finance from various resources which will depend upon decision on type of source, period of financing, cost of financing and the returns thereby.
- **Dividend decision** - The finance manager has to take decision with regards to the net profit distribution. Net profits are generally divided into two:
    - Dividend for shareholders- Dividend and the rate of it has to be decided.
    - Retained profits- Amount of retained profits has to be finalized which will depend upon expansion and diversification plans of the enterprise.

Other Scope:

- FM and Economics: Micro and Macro Envt. Factors.
- FM and Accounting: but interrelated
- FM and Mathematics: Numerical values
- FM and production Management: operating cost
- FM and Marketing: interrelated
- FM and HR Mgt: wages, salaries etc.

COMPONENTS OF FM:

- Planning and Analysis
- Asset and Liability mgt.
- Report
- Transaction Processing
- Control

OBJECTIVES OF FINANCIAL MANAGEMENT:

I. Wealth Maximization
II. Profit Maximization

I. Wealth Maximization: it includes latest innovations & improvements in the business.

- It provides efficient allocation of resources
- To ensure economic interest of the society
- It is superior to the Profit Maximization

II. Profit Maximization:

- Aim is to earn the profits.
- Its the parameter of the biz operation
- It reduces the risk of the biz concern &
- main source of finance.

OTHER OBJECTIVES OF F M:

The financial management is generally concerned with **procurement, allocation and controller of financial resources** of a concern. The objectives can be-

- To ensure **regular and adequate supply** of funds to the concern.
- To ensure **adequate returns** to the shareholders which will depend upon the earning capacity, market price of the share, expectations of the shareholders.
- To ensure **optimum funds utilization**. Once the funds are procured, they should be utilized in maximum possible way at least cost.
- To ensure **safety on investment,** i.e, funds should be invested in safe ventures so that adequate rate of return can be achieved.
- To **plan a sound capital structure**-There should be sound and fair composition of capital so that a balance is maintained between debt and equity capital.

FUNCTIONS OF FINANCIAL MANAGEMENT:

1. **Estimation of capital requirements**
2. **Determination of capital composition**
3. **Choice of sources of funds**
4. **Investment of funds**
5. **Disposal of surplus**
6. **Management of cash**
7. **Financial controls**

1. **Estimation of capital requirements:** A finance manager has to make estimation with regards to capital requirements of the company. This will depend upon expected costs and profits and future programmes and policies of a concern. Estimations have to be made in an adequate manner which increases earning capacity of enterprise.
2. **Determination of capital composition:** Once the estimation have been made, the capital structure have to be decided. This involves short- **term and long- term debt equity analysis.** This will depend upon the proportion of equity capital a company is possessing and additional funds which have to be raised from outside parties.
3. **Choice of sources of funds:** For additional funds to be procured, a company has many choices like-

- Issue of shares and debentures
- Loans to be taken from banks and financial institutions
- Public deposits to be drawn like in form of bonds.
- Choice of factor will depend on relative merits and demerits of each source and period of financing.

4. **Investment of funds:** The finance manager has to decide to allocate funds into profitable ventures so that there is safety on investment and regular returns is possible.
5. **Disposal of surplus:** The net profits decision have to be made by the finance manager. This can be done in two ways:
6. **Dividend declaration** - It includes identifying the rate of dividends and other benefits like bonus.

7. **Retained profits** - The volume has to be decided which will depend upon expansional, innovational, diversification plans of the company.
8. **Management of cash:** Finance manager has to make decisions with regards to cash management. Cash is required for many purposes like payment of wages and salaries, payment of electricity and water bills, payment to creditors, meeting current liabilities, maintenance of enough stock, purchase of raw materials, etc.
9. **Financial controls:** The finance manager has not only to plan, procure and utilize the funds but he also has to exercise control over finances. This can be done through many techniques like ratio analysis, financial forecasting, cost and profit control, etc.

FINANCIAL PLANNING

MEANING / DEFINITION OF FINANCIAL PLANNING:

Financial Planning is the process of estimating the capital required and determining it's competition. It is the process of framing financial policies in relation to procurement, investment and administration of funds of an enterprise.

OBJECTIVES OF FINANCIAL PLANNING:

- **Determining capital requirements-** This will depend upon factors like cost of current and fixed assets, promotional expenses and long- range planning. Capital requirements have to be looked with both aspects: short- term and long- term requirements.

- **Determining capital structure-** The capital structure is the composition of capital, i.e., the relative kind and proportion of capital required in the business. This includes decisions of debt- equity ratio- both short-term and long- term.

- **Framing financial policies** with regards to cash control, lending, borrowings, etc.

A finance manager **ensures that the scarce financial resources are maximally utilized in the best possible manner** at least cost in order to get maximum returns on investment.

IMPORTANCE OF FINANCIAL PLANNING:

- To ensure Adequate funds.
- Financial Planning helps in ensuring a reasonable balance between outflow and inflow of funds so that stability is maintained.
- Financial Planning ensures that the suppliers of funds are invested appropriately and effectively.
- Financial Planning helps in making growth and expansion programmes which helps in long-run survival of the company.
- Financial Planning reduces uncertainties with regards to changing market trends which can be faced easily through enough funds.
- Financial Planning helps in reducing the uncertainties which can be a hindrance to growth of the company. This helps in ensuring stability and profitability in concern.

FINANCIAL PLANNING PROCESS:

COST OF CAPITAL:

MEANING OF COST OF CAPITAL :

It is the rate of return that could have been earned by putting the same money into a different investment with equal risk. Thus, the **cost of capital** is the rate of return required to persuade the investor to make a given investment.

- It is an integral part of investment decision as it is used to measure the worth of investment proposal provided by the business concern.
- It is also called as cut-off rate, target rate or required rate of return.
- when the firm is using different sources of fund or finance, the financial manager must take careful decision with regard to the cost of capital; because it is closely associated with the value of the firm and the earning capacity of the firm.

DEFINITION:

- "Cost of capital may be defined as the rate that must be earned on the net processes to provide the cost elements of the burden at the time they are due" -William and Donaldson

- "Cost of Capital is the rate of return the firm required from investment in order to increase the value of the firm in the market place." - John J Hampton

CLASSIFICATION OF COST OF CAPITAL:

1. **Explicit and Implicit cost**
2. **Average and Marginal Cost**
3. **Historical and Future Cost**
4. **Specific and Combined Cost**

1. **Explicit and Implicit cost**:

Explicit Cost is the **rate that the firm pays to procure finance. Eg. Rate of debt.**

Implicit Cost is the **rate of return associated with the best investment opportunity** for the fir and its shareholders. Eg. Rate of earnings or profit.

2. **Average and Marginal Cost:**

Average cost is the rate that a company is expected to pay on an **average** to all its security holders to finance its assets (Capital Employed)

Marginal cost is the one; which is **the additional cost** of capital when the company goes for further raising of funds/ finance.

3. **Historical and Future Cost:**

Historical Cost which as **already been incurred** for financing a particular project. Eg. Actual Cost incurred in the previous project

Future Cost is the expected cost of financing in the proposed project. Eg. **Next project**

4. **Specific and Combined Cost**:

Specific Cost: cost of each sources of Capital. Eg: Equity, debt, loan – **specified cost for each.**

Combined Cost: also called as **over cost of capital**. It includes total cost associated with the total finance of the firm.

IMPORTANCE OF COST OF COPITAL:

- To Capital Budgeting Decision
- To Structure Decision
- To evolution of financial performance
- To other financial decision – Managing the finance -eg: earning capacity of securities, market value of shares etc.

COMPUTATION OF COST OF COPITAL:

I. Measurement of specific cost
   - Cost of Equity
   - Cost of Debt
   - Cost of Preference Share
   - Cost of Retained earnings

II. Measurement of overall cost of capital Or Weighted Average Cost of Capital (WACC)

I. Measurement of specific cost:

- **COST OF EQUITY:** The cost of equity is the return a company requires to decide if an investment meets capital return requirements. Firms often use it as a capital budgeting threshold for the Required rate of return.

  A firm's cost of equity represents the compensation the market demands in exchange for owning the asset and bearing the risk of ownership. The traditional formula for the cost of equity is the dividend capitalization model and the Capital Asset Pricing Model (CAPM).

- **COST OF DEBT: Debt** is money a company has borrowed and must pay back to the lender, often with interest, or money that is owed for goods and services already received

by a company. In accounting, debt is classified as either **short-term debt** or **long-term debt**.

A **short-term debt** is a **debt** that must be paid within one year, while **long-term debt** is not due for a year – more than an year.

Short-term and **long-term debts** are types of business **liabilities** that are reported on a company's balance sheet.

- **COST OF PREFERENCE SHARE:** Cost of Preference Share: is that part of **cost** of **capital** in which we calculate the amount which is payable to **preference shareholders** in the form of dividend with fixed rate.

- **COST OF RETAINED EARNINGS :** Cost of Retained earnings: one of the sources of finance for investment proposals. Other than debt, pref. Sh. And equity shares. It is the Cost of equivalent fully subscribed issue of **additional shares,** which is measured by the cost of equity capital.

Assumptions of Cost of Capital:

- Assumptions are closely associated while calculating and measuring the Cost of Capital.
- There are 3 assumptions:
    1. **It is not a cost as such. It is merely a hurdle rate (minimum rate of return).**
    2. **It is minimum rate of return.**
    3. **It consists of 3 important risks**
        - ✓ **Zero risk Level**
        - ✓ **Business risk**
        - ✓ **Financial risk**

Therefore there is no single method for calculation of cost of equity.

- If dividend is expected to be constant then **dividend price approach** should be used.
- If earning per share is expected to be constant then **earning price approach** should be used.
- If dividend and earning are expected to grow at a constant rate **then growth approach**, which is also named as Gordon's model should be used.

- If it is difficult to forecast future then **realized yield approach should** be used, which looks into past.
- CAPM

METHODS OF CALCULATION OF COST OF EQUITY:

1. DIVIDEND PRICE APPROACH:

Also known as dividend valuation model. this model makes an assumption that the dividend per share is expected to remain constant forever.

Hence, cost of equity capital is computed by dividing the expected dividend by market price per share as follows:

Cost of equity (K_e) = D/N_p

Where : K_e =Cost of equity

D= dividend per eq.sh

N_p= Net proceeds of an eq.sh / Market share price

2. EARNING/ PRICE APPROACH:

The advocates of this approach co-relate the earnings of the company with the market price of its share. Accordingly, the cost of equity share capital would be based upon the expected rate of earnings of a company.

Cost of Equity (K_e) = E/N_p

Where,

- K_e = Cost of Equity
- E = Current earnings per share
- N_p= Net proceeds of an eq.sh / Market share price

3. GROWTH APPROACH OR GORDON'S MODEL / DIVIDEND PRICE PLUS GROWTH APPROACH:

As per this approach the rate of dividend growth remains constant. Where earnings, dividends and equity share price all grow at the same rate, the cost of equity capital may be computed as follows:

$$\text{Cost of Equity } (K_e) = D / N_p + g$$

Where,

- D= dividend per eq. sh.
- N_p= Net proceeds of an eq.sh / Market share price
- g = Constant Growth Rate of Dividend.

4. REALIZED YIELD APPROACH:

According to this approach, the average rate of return realized in the past few years is historically regarded as '**expected return**' in the future. It computes cost of equity based on the past records of dividends actually realised by the equity shareholders.

$$K_e = Pvf * D$$

Where:

- Pvf = Present value of discount factor
- D= Dividend per share

CAPM MODEL: AN OVERVIEW:

1. The capital asset pricing model (CAPM) is a finance theory that establishes a linear relationship **between the required return on an investment and risk.**

2. The model is based on the relationship between an asset's **beta**, the **risk-free rate** (typically the **Treasury bill** rate) and the equity risk premium, or the expected return on the market minus the risk-free rate.

3. At the heart of the model are - its underlying assumptions, which many have criticize as being unrealistic and which might provide the basis for some of its major drawbacks. No model is perfect, but each should have a few characteristics that make it useful and applicable.

Two different Risks are:

- **Systematic Risk Or Market Specific Risk: External Environmental factors.** Eg : Govt. Policy, inflation, interest rate etc.

- **Unsystematic Risk Or Specific Risk**: internal environmental factors. Eg: Company's performance.

THE EVOLUTION OF THE CAPITAL ASSET PRICING MODEL: HOW AN ECONOMIC MODEL EVOLVES AND IMPROVES:

- **In 1964, William Sharpe and John Lintner** developed a formula called the **Capital Asset Pricing Model (CAPM)** for predicting the **pricing of stocks**.
- It was mathematically simplistic and intuitive; it asked the right questions; it was an immediate success in the economic community.
- It was taught in virtually all business schools as the stand-alone method for pricing stocks. There was just one problem with the model: it didn't work. Models attempt to simplify the real world, find a rule, and then apply that rule in reality. Through this stringent means of testing and retesting, hypothesizing and theorizing – applying the scientific method - researchers can find rules that govern economics.
- To reduce the complex system of variables that apply in any situation into a linear formula is no easy task – but it is especially difficult, and probably impossible to do so for the stock market. The stock market is subject to a complex scheme of crowd psychology, moods, global affairs, and seemingly unrelated topics all have the potential to shift prices. **It is highly doubtful that any theory would be able to accurately measure these effects and create a theory from that.**

ADVANTAGES OF CAPM MODEL:

There are numerous advantages to the application of CAPM, including:

- **Ease of Use:** CAPM is a simple calculation that can be easily stress-tested to derive a range of possible outcomes to provide confidence around the required rates of return.
- **Diversified Portfolio:** The assumption that investors hold a diversified portfolio, similar to the market portfolio, eliminates unsystematic (specific) risk.

- **Systematic Risk:** CAPM takes into account systematic risk (beta), which is left out of other return models, such as the dividend discount model (DDM). Systematic or market risk is an important variable because it is unforeseen and, for that reason, often cannot be completely mitigated.

- **Business and Financial Risk Variability:** When businesses investigate opportunities, if the business mix and financing differ from the current business, then other required return calculations, like the weighted average cost of capital (WACC), cannot be used. However, CAPM can.

DISADVANTAGES OF CAPM MODEL:

- **Risk-Free Rate (Rf):** The commonly accepted rate used as the Rf is the yield on short-term government securities. The issue with using this input is that the yield changes daily, creating volatility.

- **Return on the Market (Rm):** The return on the market can be described as the sum of the capital gains and dividends for the market. A problem arises when, at any given time, the market return can be negative. As a result, a long-term market return is utilized to smooth the return. Another issue is that these returns are backward-looking and may not be representative of future market returns.

- **Ability to Borrow at a Risk-Free Rate:** CAPM is built on four major assumptions, including **one that reflects an unrealistic real-world picture**. This assumption—that investors can borrow and lend at a risk-free rate—is unattainable in reality. Individual investors are unable to borrow (or lend) at the same rate as the U.S. government. Therefore, the minimum required return line might actually be less steep (provide a lower return) than the model calculates.

- **Determination of Project Proxy Beta:** Businesses that use CAPM to assess an investment need to find a beta reflective to the project or investment. Often, a proxy beta is necessary. However, **accurately determining one to properly assess the project is difficult** and can affect the reliability of the outcome.

II. Measurement of overall cost of capital Or Weighted Average Cost of Capital (WACC) Or Dividend Discount Model (DDM):

It is the expected average future cost of funds over the long run.

Calculation:

- Assigning Weights to specific costs
- Multiplying the cost of each of the sources by the appropriate weights.
- Dividing the total weighted cost by the total weights

$$Ko=KdWd + KpWp + KeWe + KrWr$$

- K= Cost
- W= Weights

Formula:

$$Kw = \sum XW \div \sum W$$

Where:

- Kw -Weighted average cost of capital
- X - Cost of specific sources of finance
- W-Weight, proportion of specific sources of finance

FACTORS THAT AFFECT THE WACC:

1. **Economic conditions:** When banks can easily give loans at low rate of interest to increase their stability, then the company's debt will decrease, and the cost of equity will increase. Well, it is not just limited to bank, it can be said that any economic conditions can be applicable for the same.

2. **Capital structure:** Debt equity ratio will always affect cost of capital because if the debt is greater than share capital, then cost of capital would become more. But if the stock capital exceeds the debt, the pay cost of equity has to be paid.

3. **Dividend policy:** Every company has its dividend policy. The amount of total earning is the company's interest to be paid as dividend.

4. **Receiving new fund:** If any business requires a certain amount immediately for certain purposes, then the company will needpaying a real high rate of interest, and with it, the risk of financial institution will also increase. Therefore the company is bound to follow the new rate of cost of capital that might affect business's cost of capital rate.

5. **Financial and investment decisions:** When any business gets a new share capital, they have to mention the causes to fund provider for using their capital. If they find it's too risky, then both of creditors and shareholders will receive high rewards.

6. **Income tax rates:** Any business after earning money, they deduct interest charges, tax charges. Therefore, for higher tax rates it will affect the cost of share capital and vice versa.

7. **Breakpoints of the marginal cost of capital:** Break point is equal to amount of money at which sources of cost of capital changes or proportion of new capital will be raised from this source.

SIGNIFICANCE OF COST OF CAPITAL:

1. Helps in evaluating financial performance: if the actual profit of the project is more than the expectation and the actual cost of capital than the performance is said to be satisfactory.

2. Helps in determining capital mix in capital structure decisions: it is a rule that there should be a proper debt equity mix and the management has to keep in mind that the optimum capital structure results in maximum value of the firm and minimize the cost of capital.

3. Act as acceptance criteria in capital budgeting: If the present value of expected return from the investment is > or = cost of investment the project may be accepted otherwise rejected.

4. Helps in taking financial decisions: it helps in taking financial decisions like dividend policy, capitalization of profits, of working capital.

5. Dividend Decisions: The concept of capital can be conveniently employed as a tool for making other important financial decisions. On the basis, decisions can be taken regarding dividend policy, capitalization of profits and selections of sources of working capital.

6. It helps in **evaluating the investment options**, by converting the future cash flows of the investment avenues into present value by discounting it.

7. It is useful in **framing optimum credit policy**, i.e. at the time of deciding credit period to be allowed to the customers or debtors, it should be compared with the cost of allowing credit period.

8. Knowledge of firms expected income and inherent risks: Investors can know the firms expected income and risk inherent therein by the cost of capital. If a firms cost of capital is high, it means the firms present rate of earnings is less, the risk is more and capital structure is imbalanced, in such situations, investors expect the higher rate of return.

PROBLEMS:

Exercise 1

A company issues 10,000 equity shares of Rs. 100 each at a premium of 10%. The company has been paying 25% dividend to equity shareholders for the past five years and expects to maintain the same in the future also. Compute the cost of equity capital. Will it make any difference if the market price of equity share is Rs. 175?

Solution

$$K_e = \frac{D}{N_p}$$

$$= \frac{25}{100} \times 100$$

$$= 22.72\%$$

If the market price of a equity share is Rs. 175.

$$K_e = \frac{D}{N_p}$$

$$= \frac{25}{175} \times 100$$

$$= 14.28\%$$

Exercise 2

(a) A company plans to issue 10000 new shares of Rs. 100 each at a par. The floatation costs are expected to be 4% of the share price. The company pays a dividend of Rs. 12 per share initially and growth in dividends is expected to be 5%. Compute the cost of new issue of equity shares.

(b) If the current market price of an equity share is Rs. 120. Calculate the cost of existing equity share capital

Solution

(a)

$$K_e = \frac{D}{N_p} + g$$

$$= \frac{12}{100-4} + 5 = 17.5\,\%$$

(b)

$$K_e = \frac{D}{N_p} + g$$

$$= \frac{12}{120} + 5\,\% = 15\,\%$$

Exercise 3

The current market price of the shares of A Ltd. is Rs. 95. The floatation costs are Rs. 5 per share amounts to Rs. 4.50 and is expected to grow at a rate of 7%. You are required to calculate the cost of equity share capital.

Solution

Market price Rs. 95

Dividend Rs. 4.50

Growth 7%.

$$K_e = \frac{D}{N_p} + g$$

$$= \frac{4.50}{95} \times 100 + 7\%$$

$$= 4.73\% + 7\% = 11.73\%$$

Exercise 4

A firm is considering an expenditure of Rs. 75 lakhs for expanding its operations. The relevant information is as follows :

Number of existing equity shares = 10 lakhs

Market value of existing share = Rs.100

Net earnings = Rs.100 lakhs

Compute the cost of existing equity share capital and of new equity capital assuming that new shares will be issued at a price of Rs. 92 per share and the costs of new issue will be Rs. 2 per share.

Solution

Cost of existing equity share capital:

$$K_e = \frac{E}{N_p}$$

Earnings Per Share(EPS) $= \frac{100\,\text{lakhs}}{10\,\text{lakhs}} = \text{Rs.}10$

$$K_e = \frac{10}{100} \times 10$$

$$= 10\,\%$$

Cost of Equity Capital

$$K_e = \frac{E}{N_p}$$

$$= \frac{10}{92-2} \times 100$$

$$= 11.11\,\%$$

Exercise 5

(a) A Ltd. issues Rs. 10,00,000, 8% debentures at par. The tax rate applicable to the company is 50%. Compute the cost of debt capital.

(b) B Ltd. issues Rs. 1,00,000, 8% debentures at a premium of 10%. The tax rate applicable to the company is 60%. Compute the cost of debt capital.

(c) A Ltd. issues Rs. 1,00,000, 8% debentures at a discount of 5%. The tax rate is 60%, compute the cost of debt capital.

(d) B Ltd. issues Rs. 10,00,000, 9% debentures at a premium of 10%. The costs of floatation are 2%. The tax rate applicable is 50%. Compute the cost of debt-capital.

In all cases, we have computed the after-tax cost of debt as the firm saves on account of tax by using debt as a source of finance.

Solution

(a) $$K_{da} = \frac{I}{N_p}(1-t)$$

$$= \frac{8,000}{1,00,000} \times (1 - 0.5)$$

$$= \frac{8,000}{1,00,000} \times 0.5$$

$$= 4\%$$

$$K_{da} = \frac{I}{N_p}(1 - t)$$

(b) N_P = Face Value + Premium = 1,00,000 + 10,000 = 1,10,000

$$= \frac{8,000}{1,10,000} \times (1 - 0.6)$$

$$= \frac{8,000}{1,10,000} \times 0.6$$

$$= 2.91\%$$

(c) $$K_{da} = \frac{I}{N_p}(1 - t)$$

$$= \frac{8,000}{95,000} \times (1 - t)$$

$$= 3.37\%$$

(d) $$K_{da} = \frac{I}{N_p}(1 - t), N_p = \text{Rs. } (10,00,000 + 1,00,000) \times \frac{2}{100}$$

$$= \frac{90,000}{10,78,000} \times (1 - 0.5)$$

$$= 4.17\% = 11,00,000 - 22,000 = \text{Rs. } 10,78,000$$

Exercise 6

A company issues Rs. 20,00,000, 10% redeemable debentures at a discount of 5%. The costs of floatation amount to Rs. 50,000. The debentures are redeemable after 8 years. Calculate before tax and after tax. Cost of debt assuring a tax rate of 55%.

Solution

$$K_{db} = \frac{I = 1/n\ (P - N_p)}{1/2(P + N_p)}$$

$$= \frac{20,00,000 + 1/8(20,00,000 + 18,50,000)}{1/2(20,00,000 + 18,50,000)}$$

Note N_p = 20,00,000 – 10,00,000 – 50,000

$$= \frac{2,00,000 + 18750}{19,25,000}$$

$$= 11.36\%.$$

After Tax Cost of Debt K_{db}

$$= K_{da}\ (1 - t)$$

$$= 11.36\ (1 - 0.55)$$

$$= 5.11\%.$$

Exercise 7

XYZ Ltd. issues 20,000, 8% preference shares of Rs. 100 each. Cost of issue is Rs. 2 per share. Calculate cost of preference share capital if these shares are issued (a) at par, (b) at a premium of 10% and (c) of a debentures of 6%.

Solution

Cost of preference share capital $K_p = \frac{D_p}{N_p}$

(a) $$K_p = \frac{1,60,000}{20,00,000 - 40,000} \times 100$$

$$= 8.16\%$$

(b) $$K_p = \frac{1,60,000}{20,00,000 + 2,00,000 - 40,000} \times 100$$

$$= 7.40\%$$

$$I\,K_p = \frac{1,60,000}{20,00,000 - 1,20,000 - 40,000} \times 100$$

$$= \frac{1,60,000}{18,40,000} \times 100$$

$$= 8.69\%$$

Exercise 8

ABC Ltd. issues 20,000, 8% preference shares of Rs. 100 each. Redeemable after 8 years at a premium of 10%. The cost of issue is Rs. 2 per share. Calculate the cost of preference share capital.

$$K_p = \frac{D_p + (P - N_p)/n}{(P + N_p)/2}$$

$$= \frac{1,60,000 + 1/8\ (22,00,000 - 19,60,000)}{1/2(22,00,000 + 19,60,000)}$$

$$= \frac{1,60,000 + 30,000}{20,80,000}$$

$$= 9.13\%$$

where $D_p = 20,000 \times 100 \times 8\% = 1,60,000$

$P = 20,00,000 + 2,00,000 = 22,00,00$

$N_p = 20,00,000 - 40,000 = 19,60,000$

$n = 8$ years

Exercise 9

ABC Ltd. issues 20,000, 8% preference shares of Rs. 100 each at a premium of 5% redeemable after 8 years at par. The cost of issue is Rs. 2 per share. Calculate the cost of preference share capital.

Solution

$$K_p = \frac{D_p + (P - N_p)/n}{(P + N_p)/2}$$

$$= \frac{1,60,000 + 1/8\ (20,00,000 - 20,60,000)}{1/2\ (20,00,000 + 20,60,000)}$$

$$= \frac{1,60,000 - 7,500}{20,30,000}$$

$$= 7.51\%$$

where $D_p = 20,000 \times 100 \times 8\% = 1,60,000$

$P = 20,00,000$

$n = 8$ years

$N_p = 20,00,000 + 10,00,000 - 40,000 = 20,60,000$

Exercise 10

A firm's K_e (return available to shareholders) is 10%, the average tax rate of shareholders is 30% and it is expected that 2% is brokerage cost that shareholders will have to pay while investing their dividends in alternative securities. What is the cost of retained earnings?

Solution

Cost of Retained Earnings, $K_r = K_e (1 - t) (1 - b)$

Where,

K_e = rate of return available to shareholders

t = tax rate

b = brokerage cost

So, $K_r = 10\% \ (1-0.5) \ (1-0.02)$

$= 10\% \times 0.5 \times 0.98$

$= 4.9\%$

Exercise 11

A firm has the following capital structure and after-tax costs for the different sources of funds used :

Source of Funds	Amount Rs.	Proportion %	After-tax cost %
Debt	12,000	20	4
Preference Shares	15,000	25	8
Equity Shares	18,000	30	12
Retained Earnings	15,000	25	11
Total	60,000	100	

You are required to compute the weighted average cost of capital.

Exercise 12

A company has on its books the following amounts and specific costs of each type of capital.

Type of Capital	Book Value Rs.	Market Value Rs.	Specific Costs (%)
Debt	4,00,000	3,80,000	5
Preference	1,00,000	1,10,000	8
Equity	6,00,000	9,00,000	15
Retained Earnings	2,00,000	3,00,000	13
	13,00,000	16,90,000	

Determine the weighted average cost of capital using:

(a) Book value weights, and

(b) Market value weights.

How are they different? Can you think of a situation where the weighted average cost of capital would be the same using either of the weights? **(MBA – P.U. Nov. 2005)**

Solution

Computation of Weighted Average Cost of Capital

A. Book Value

Source of Funds	Amount	Cost % (X)	Weighted Cost Proportion X Cost (XW)
Debt	4,00,000	5	20,000
Preference Shares	1,00,000	8	8,000
Equity Shares	6,00,000	15	90,000
Retained Earnings	2,00,000	13	26,000
	ΣW = 13,00,000		ΣXW = 1,44,000

$$K_w = \frac{\Sigma XW}{\Sigma W}$$

$$K_w = \frac{1,44,000}{13,00,000} \times 100 = 11.1\,\%$$

Computation Weighted Average Cost of Capital

B. Market Value

Source of Funds	Amount	Cost % (X)	Weighted Cost Proportion X Cost (XW)
Debt	3,80,000	5	19,000
Preference Shares	1,10,000	8	8,800
Equity Shares	9,00,000	15	13,500
Retained Earnings	3,00,000	13	39,000
	ΣW = 16,90,000		ΣXW = 2,01,800

$$K_w = \frac{\Sigma XW}{\Sigma W}$$

$$K_w = \frac{2,01,800}{16,90,000} \times 100 = 11.9\,\%$$

Exercise 13

ABC Ltd. has the following capital structure.

	Rs.
Equity (expected dividend 12%)	10,00,000
10% preference	5,00,000
8% loan	15,00,000

You are required to calculate the weighted average cost of capital, assuming 50% as the rate of income-tax, before and after tax.

Solution

Solution showing weighted average cost of capital:

Particulars	Rs.	After	Weights	Cost
Equity	10,00,000	12%	33.33%	3.99
Preference	5,00,000	10%	16.67	1.67
8% Loan	15,00,000	4%	50.00	2.00
				7.66%

Weight average cost of capital = 7.66%

UNIT -2

CAPITAL STRUCTURE HYPOTHESIS

MEANING OF CAPITAL STRUCTURE

Capital structure is the combination of capitals from different sources of finance. The capital of a company consists of equity share holders' fund, preference share capital and long term external debts.

The source and quantum of capital is decided keeping in mind following factors:

1. Control: capital structure should be designed in such a manner that existing shareholders continue to hold majority stack.

2. Risk: capital structure should be designed in such a manner that financial risk of the company does not increases beyond tolerable limit.

3. Cost: overall cost of capital remains minimum.

However, the objective of a company is to maximise the value of the company and it is prime objective while deciding the optimal capital structure. Capital Structure decision refers to deciding the forms of financing (which sources to be tapped); their actual requirements (amount to be funded) and their relative proportions (mix) in total capitalization.

Value of the firm =

$$\frac{\text{EBIT}}{\text{Overall Cost of Capital / Weighted average cost of Capital}}$$

Approaches to capital Structure

1.Traditional Approach

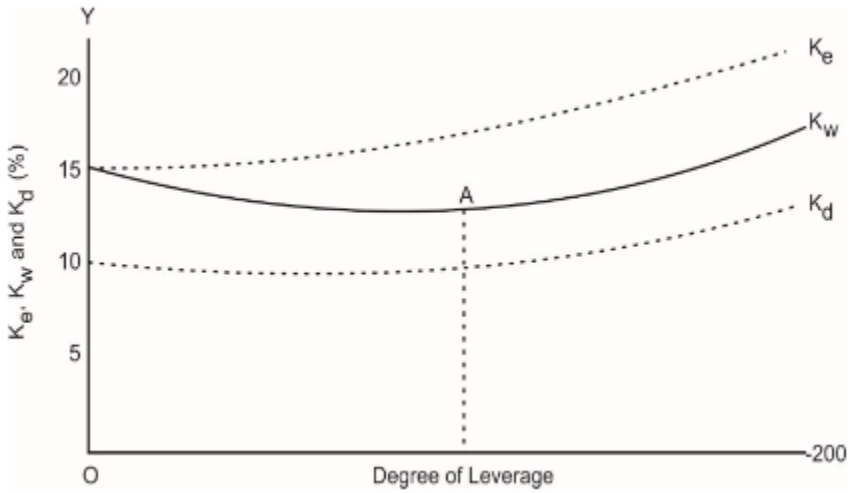
This approach favours that as a result of financial leverage up to some point, cost of capital comes down and value of firm increases. However, beyond that point, reverse trends emerge. The principle implication of this approach is that the cost of capital is dependent on the capital structure and there is an optimal capital structure which minimises cost of capital.

Under this approach:

1.The rate of interest on debt remains constant for a certain period and thereafter with an increase in leverage, it increases.

2.The expected rate by equity shareholders remains constant or increase gradually. After that, the equity shareholders starts perceiving a financial risk and then from the optimal point and the expected rate increases speedily.

3.As a result of the activity of rate of interest and expected rate of return, the WACC first decreases and then increases. The lowest point on the curve is optimal capital structure.



Optimum capital structure occurs at the point where value of the firm is highest and the cost of capital is the lowest.

Conclusion

The firm should strive to reach the optimal capital structure and its total valuation through a judicious use of the both debt and equity in capital structure. At the optimal capital structure, the overall cost of capital will be minimum and the value of the firm will be maximum.

Illustration

Indra Ltd. has EBIT of ` 1,00,000. The company makes use of debt and equity capital. The firm has 10% debentures of ` 5,00,000 and the firm's equity capitalization rate is 15%.You are required to COMPUTE:

(i) Current value of the firm

(ii) Overall cost of capita

SOLUTION

I) Calculation of total value of the firm

EBIT	1,00,000
Less: Interest (@10% on ` 5,00,000)	50,000
Earnings available for equity holders	50,000
Equity capitalization rate i.e. Ke	15%

Value of equity holders = Earnings available for equity holders

Value of equity (S)

$$= \frac{50,000}{0.15} = 3,33,333/-$$

Value of Debt (given) D 5,00,000

Total value of the firm V = D + S (5,00,000 + 3,33,333)

V = 8,33,333/-

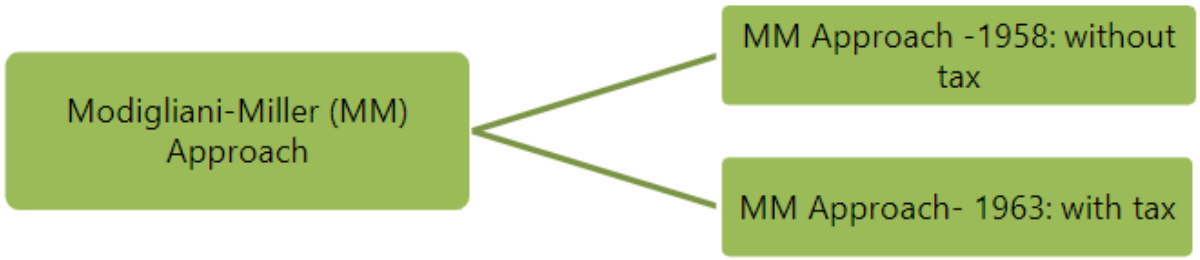
(ii) $$\text{Overall cost of capital} = K_o = K_e\left(\frac{S}{V}\right) + K_d\left(\frac{D}{V}\right) \text{ or } \frac{EBIT}{V}$$

$$= 0.15\left(\frac{3,33,333}{8,33,333}\right) + 0.10\left(\frac{5,00,000}{8,33,333}\right)$$

$$= \frac{1}{8,33,333}[50,000 + 50,000] = 12.00\%$$

Modigliani-Miller Approach (MM) :

Modigliani-Miller approach provides behavioural justification for constant overall cost of capital and therefore, total value of the firm.



MM Approach – 1958☹ without tax)

This approach describes, in a perfect capital market where there is no transaction cost and no taxes, the value and cost of capital of a company remain unchanged irrespective of change in the capital structure. The approach is based on further additional assumptions like:

♦Capital markets are perfect. All information is freely available and there are no transaction costs.

♦All investors are rational.

♦Firms can be grouped into 'Equivalent risk classes' on the basis of their business risk.

♦Non-existence of corporate taxes.

Based on the above assumptions, Modigliani-Miller derived the following three propositions:

(i) Total market value of a firm is equal to its expected net operating income divided by the discount rate appropriate to its risk class decided by the market

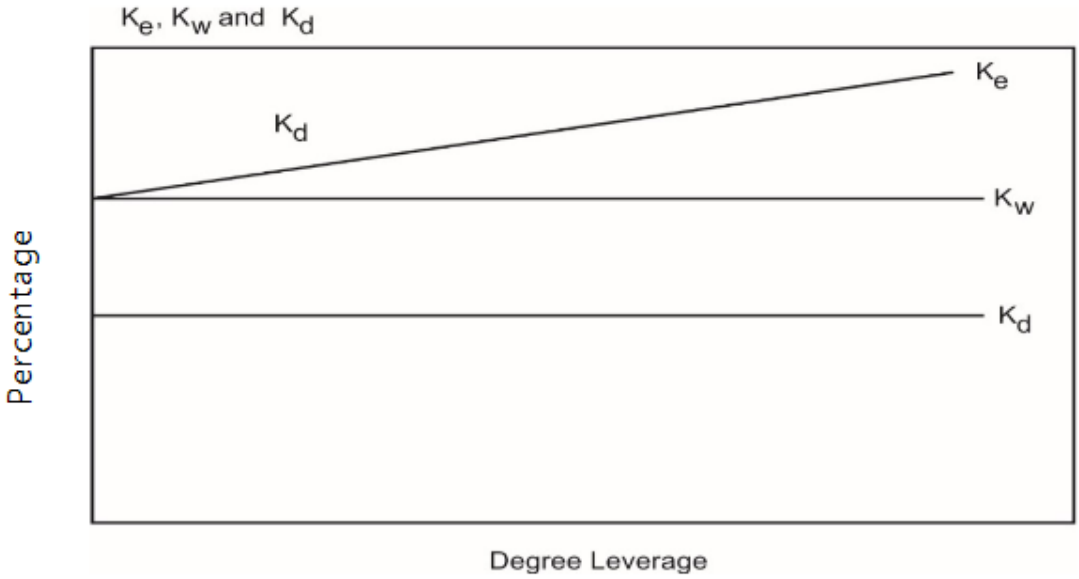
$$\text{Value of levered firm } (V_g) = \text{Value of unlevered firm } (V_u)$$

$$\text{Value of a firm} = \frac{\text{Net Operating Income (NOI)}}{K_o}$$

ii) A firm having debt in capital structure has higher cost of equity than an unlevered firm. The cost of equity will include risk premium for the financial risk. The cost of equity in a levered firm is determined as under:

$$K_e = K_o + (K_o - K_d)\frac{\text{Debt}}{\text{Equity}}$$

iii) The structure of the capital (financial leverage) does not affect the overall cost of capital. The cost of capital is only affected by the business risk.



It is evident from the above diagram that the average cost of the capital (Ko) is a constant and not affected by leverage.

The operational justification of Modigliani-Miller hypothesis is explained through the functioning of the arbitrage process and substitution of corporate leverage by personal leverage. Arbitrage refers to buying asset or security at lower price in one market and selling it at a higher price in another market. As a result, equilibrium is attained in different markets. This is illustrated by taking two identical firms of which one has debt in the capital structure while the other does not. Investors of the firm whose value is higher will sell their shares and instead buy the shares of the firm whose value is lower. They will be able to earn the same return at lower outlay with the same perceived risk or lower risk. They would, therefore, be better off.

The value of the levered firm can neither be greater nor lower than that of an unlevered firm according this approach. The two must be equal. There is neither advantage nor disadvantage in using debt in the firm's capital structure.

The approach considers capital structure of a firm as a whole pie divided into equity, debt and other securities. No matter how the capital structure of a firm is divided (among debt, equity etc.), there is a conservation of investment value. Sincethe total investment value of

a corporation depends upon its underlying profitability and risk, it is invariant with respect to relative changes in the firm's financial capitalization.

According to MM, since the sum of the parts must equal the whole, therefore, regardless of the financing mix, the total value of the firm stays the same.

The shortcoming of this approach is that the arbitrage process as suggested by Modigliani-Miller will fail to work because of imperfections in capital market, existence of transaction cost and presence of corporate income taxes.

MM Approach- 1963: (with tax In 1963) MM model was amended by incorporating tax, they recognised that the value of the firm will increase, or cost of capital will decrease where corporate taxes exist. As a result, there will be some difference in the earnings of equity and debt-holders in levered and unlevered firm and value of levered firm will be greater than the value of unlevered firm by an amount equal to amount of debt multiplied by corporate tax rate. MM has developed the formulae for computation of cost of capital (Ko), cost of equity (Ke) for the levered firm.

MM has developed the formulae for computation of cost of capital (Ko), cost of equity (Ke) for the levered firm.

(i) Value of a levered company = Value of an unlevered company + Tax benefit

Or, $V_g = V_u + TB$

(ii) Cost of equity in a levered company $(K_{eg}) = K_{eu} + (K_{eu} - K_d) \frac{\text{Debt}}{\text{Debit} + \text{Equity}}$

Where,

K_{eg} = Cost of equity in a levered company

K_{eu} = Cost of equity in an unlevered company

K_d = Cost of debt

t = Tax rate

(iii) WACC in a levered company (K_{og})= $K_{eu}(1-tL)$

Where,

K_{og} = WACC of a levered company

K_{eu} = Cost of equity in an unlevered company

t = Tax rate

$$L = \frac{\text{Debt}}{\text{Debt}+\text{Equity}}$$

ILLUSTRATION 6: When value of levered firm is more than the value of unlevered firm

There are two company N Ltd. and M Ltd., having same earnings before interest and taxes i.e. EBIT of ₹20,000. M Ltd. is a levered company having a debt of ₹1,00,000 @ 7% rate of interest. The cost of equity of N Ltd. is 10% and of M Ltd. is 11.50%.

COMPUTE how arbitrage process will be carried on?

SOLUTION

	Company	
	M Ltd.	N Ltd.
EBIT (NOI)	₹ 20,000	₹ 20,000
Debt (D)	₹ 1,00,000	---
K_e	11.50%	10%
K_d	7%	---

$$\text{Value of equity (S)} = \frac{\text{NOI} - \text{Interest}}{\text{Cost of equity}}$$

$$S_M = \frac{20,000 - 7,000}{11.50\%} = ₹\ 1,13,043$$

$$S_N = \frac{20,000}{10\%} = ₹\ 2,00,000$$

VM = 1,13,043 + 1,00,000 {V = S + D} = ₹ 2,13,043

VN = 200000

Arbitrage Process:

If you have 10% shares of M Ltd., your value of investment in equity shares is 10% of `1,13,043 i.e. ` 11,304.30 and return will be 10% of (`20,000 – `7,000) = ` 1,300.

Alternate Strategy will be:Sell your 10% share of levered firm for ` 11,304.30 and borrow 10% of levered firms debt i.e. 10% of ` 1,00,000 and invest the money i.e. 10% in unlevered firms stock:Total resources /Money we have = `11,304.30 + `10,000 = `21,304.3 and you invest 10% of `2,00,000 = ` 20,000 Surplus cash available with you is = `21,304.3 – `20,000 = ` 1,304.3 Your return = 10% EBIT of unlevered firm – Interest to be paid on borrowed funds i.e. = 10%

of ` 20,000 – 7% of ` 10,000 = `2,000 – `700 = ` 1,300 i.e. your return is same i.e. ` 1,300 which you are getting from N Ltd. before investing in M Ltd. but still you have ` 1,304.3 excess money available with you. Hence, you are better off by doing arbitrage.In the above example you have not invested entire amount received from "sale of shares of levered company plus amount borrowed". You maintained same level of earning and reduced investment. Alternatively, you could have invested entire amount in unlevered company. In that case your annual earnings would have increased.

Net Income (NI) Approach

Net income approach suggested by the Durand. According to this approach, the capital structure decision is relevant to the valuation of the firm. In other words, a change in the capital structure leads to a corresponding change in the overall cost of capital as well as the total value of the firm.

According to this approach, use more debt finance to reduce the overall cost of capital and increase the value of firm.

Net income approach is based on the following three important assumptions:

1. There are no corporate taxes.
2. The cost debt is less than the cost of equity.
3. The use of debt does not change the risk perception of the investor.

where

$V = S + B$

V = Value of firm

S = Market value of equity

B = Market value of debt

Market value of the equity can be ascertained by the following formula:

$$S = \frac{NI}{K_e}$$

where

NI = Earnings available to equity shareholder

K_e = Cost of equity/equity capitalization rate

Format for calculating value of the firm on the basis of NI approach.

Particulars	Amount
Net operating income (EBIT)	XXX
Less: interest on debenture (i)	XXX
Earnings available to equity holder (NI)	XXX
Equity capitalization rate (K_e)	XXX
Market value of equity (S)	XXX
Market value of debt (B)	XXX
Total value of the firm (S+B)	XXX
Overall cost of capital = K_o = EBIT/V(%)	XXX%

Exercise 3

(a) A Company expects a net income of Rs. 1,00,000. It has Rs. 2,50,000, 8% debentures. The equality capitalization rate of the company is 10%. Calculate the value of the firm and overall capitalization rate according to the net income approach (ignoring income tax).

(b) If the debenture debts are increased to Rs. 4,00,000. What shall be the value of the firm and the overall capitalization rate?

Solution

(a) Capitalization of the value of the firm

	Rs.
Net income	1,00,000
Less: Interest on 8% Debentures of Rs. 2,50,000	20,000
Earnings available to equality shareholders	80,000
Equity capitalization rate	10%

$$= \frac{80,000}{10} \times 100$$

Market value of equity	=	8,00,000
Market value of debentures	=	2,50,000
Value of the firm	=	10,50,000

Calculation of overall capitalization rate

$$\text{Overall cost of capital } (K_o) = \frac{\text{Earnings}}{\text{Value of the firm}} \quad \frac{\text{EBIT}}{V}$$

$$= \frac{1,00,000}{10,50,000} \times 100$$

$$= 9.52\%$$

(b) Calculation of value of the firm if debenture debt is raised to Rs. 3,00,000.

	Rs.
Net income	1,00,000
Less: Interest on 8% Debentures of Rs. 4,00,000	32,000
Equity Capitalization rate	68,000
	10%

$$\text{Market value of equity} = 68,000 \times \frac{100}{10} = 6,80,000$$

$$= 6,80,000$$

Market value of Debentures = 4,00,000

Value of firm = 10,80,000

$$\text{Overall cost of capital} = \frac{1,00,000}{10,80,000} \times 10$$

$$= 9.26\%$$

Thus, it is evident that with the increase in debt financing, the value of the firm has increased and the overall cost of capital has increased.

Net Operating Income (NOI) Approach

Another modern theory of capital structure, suggested by **Durand**. This is just the opposite to the Net Income approach. According to this approach, Capital Structure decision is irrelevant to the valuation of the firm. The market value of the firm is not at all affected by the capital structure changes.

According to this approach, the change in capital structure will not lead to any change in the total value of the firm and market price of shares as well as the overall cost of capital.

NI approach is based on the following important assumptions;

The overall cost of capital remains constant;

There are no corporate taxes;

The market capitalizes the value of the firm as a whole;

Value of the firm (V) can be calculated with the help of the following formula

$$V = \frac{EBIT}{K_o}$$

Where,

V = Value of the firm

EBIT = Earnings before interest and tax

K_o = Overall cost of capital

Exercise 4

XYZ expects a net operating income of Rs. 2,00,000. It has 8,00,000, 6% debentures. The overall capitalization rate is 10%. Calculate the value of the firm and the equity capitalization rate (Cost of Equity) according to the net operating income approach.

If the debentures debt is increased to Rs. 10,00,000. What will be the effect on volume of the firm and the equity capitalization rate?

Solution

Net operating income = Rs. 2,00,000

Overall cost of capital = 10%

Market value of the firm (V)

$$= \frac{EBIT}{K_o}$$

$$= 2,00,000 \times \frac{100}{10} = \text{Rs. } 20,00,000$$

Market value of the firm = Rs. 20,00,000

Less: market value of Debentures = Rs. 8,00,000

Equity capitalization rate (or) cost of equity (K_e)

$$= \frac{EBIT - I}{V - D}$$

Where, V = value of the firm

D = value of the debt capital

$$= \frac{2,00,000 - 48,000}{20,00,000 - 8,00,000} \times 100$$

$$= 12.67\%$$

If the debentures debt is increased to Rs. 10,00,000, the value of the firm shall remain changed to Rs. 20,00,000. The equity capitalization rate will increase as follows:

$$= \frac{EBIT - I}{V - D}$$

$$= \frac{2,00,000 - 60,000}{20,00,000 - 10,00,000} \times 100$$

$$= \frac{1,40,000}{10,00,000} \times 100$$

$$= 14\%.$$

Exercise 5

Abinaya company Ltd. expresses a net operating income of Rs. 2,00,000. It has Rs. 8,00,000 to 7% debentures. The overall capitalization rate is 10%.

(a) Calculate the value of the firm and the equity captialization rate (or) cost of equity according to the net operating income approach.

(b) If the debenture debt is increasesd to Rs. 12,00,000. What will be the effect on the value of the firm, the equity capitalization rate?

Solution

(a) Net operating income = Rs. 2,00,000

Over all cost of capital = 10%

Market value of the firm (V)

$$\frac{NOI(EBIT)}{Overall\ cost\ of\ capital\ (OK)}$$

$$= 2,00,000 \times 100/10$$

$$= \text{Rs. } 20,00,000$$

Market value of firm = Rs. 20,00,000

Less Market value of debentures = Rs. 8,00,000

Total marketing value of equity = Rs. 12,00,000

Equity capitalization rate (or) cost of equity (K_e)

$$= \frac{EBIT - I}{V - D}$$

$$= \frac{2,00,000 - 56,000}{20,00,000 - 8,00,000} \times 100$$

$$= \frac{1,44,000}{12,00,000} \times 100$$

$$= 12\%$$

where I = Interest of debt
V = Value of the firm
D = Value of debt capital
I = 8,00,000 × 7% = 56,000
V = 20,00,000
D = 8,00,000

(b) If the debenture debt is increased at Rs. 12,00,000, the value of the firm shall changed to Rs. 20,00,000.

Equity Capitalization Rate (K_e)

$$= \frac{EBIT - I}{V - D}$$

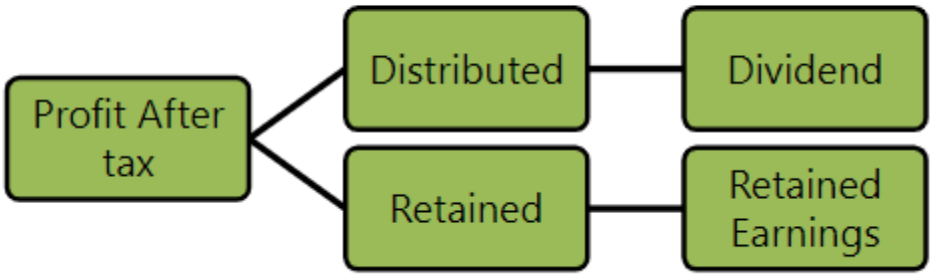
$$= \frac{2,00,000 - 84,000}{20,00,000 - 12,00,000}$$

$$= 14.5\%$$

where I = 12,00,000 at 7% = 84,000

MEANING OF DIVIDEND:

Dividend is that part of profit after tax which is distributed to the shareholders of the company. In other words, the profit earned by a company after paying taxes can be used for:i. Distribution of dividend orii. Can be retained as surplus for future growth.



SIGNIFICANCE OF DIVIDEND POLICY

Dividend policy of a firm is governed by:

i. **Long Term Financing Decision:** As we know that one of the financing option is 'Equity'. Equity can be raised externally through issue of equity shares or can be generated internally through retained earnings. But retained earnings are preferable because they do not involve floatation costs.But whether to retain or distribute the profits forms the basis of this decision. Since payment of cash dividend reduces the amount of funds necessary to finance profitable investment opportunities thereby restricting it to find other avenues of finance.Under this purview, the decision is based on the following: 1. Whether the organization has opportunities in hand to invest the amount of profits, if retained?2. Whether the return on such investment (ROI) will be higher than the expectations of shareholders i.e. Ke.

ii. **Wealth Maximization Decision:** Under this head, we are facing the problem of amount of dividend to be distributed i.e. the Dividend Payout ratio (D/P) in relation to Market price of the shares (MPS).

Because of market imperfections and uncertainty, shareholders give higher value to near dividends than future dividends and capital gains. Payment of dividends influences the market price of the share. Higher dividends increase value of shares and low dividends decrease it. A proper balance has to be struck between the two approaches.

When the firm increases retained earnings, shareholders' dividends decrease and consequently market price is affected. Use of retained earnings to finance profitable investments increases future earnings per share. On the other hand, increase in dividends may cause the firm to forego investment opportunities for lack of funds and thereby decrease the future earnings per share. Thus, management should develop a dividend policy which divides net earnings into dividends and retained earnings in an optimum way so as to achieve the objective of wealth maximization for shareholders. Such policy will be influenced by investment opportunities available to the firm and value of dividends as against capital gains to shareholders.

DETERMINANTS OF DIVIDEND DECISIONS

The dividend policy is affected by the following factors:

1. Availability of funds: If the business is in requirement of funds, then retained earnings could be a good source. Since it saves the floatation cost and further the control will not be diluted as in case of further issue of share capital.

2. Cost of capital: If the financing requirements can be financed through debt (relatively cheaper source of finance), then it should be preferred to distribute more dividend but if the financing is to be done through fresh issue of equity shares, it is better to use retained earnings as much as possible.

3. Capital structure: An optimum Debt equity ratio should also be under consideration for the dividend decision.

4. Stock price: Stock price here means market price of the shares. Generally, higher dividends increase value of shares and low dividends decrease it.

5. Investment opportunities in hand: The dividend decision is also affected, if there are investment opportunities in hand, the company may prefer to retain more from the earnings

6. Internal rate of return: If the internal rate of return is more than the cost of retained earnings, it's better to distribute the earnings as much as possible.

7. Trend of industry: Few industries have been seen by investors for regular income, hence in such cases, the firm will have to pay dividend for survival.

8. Expectation of shareholders: The shareholders can be categorised in two categories: (i) those who invests for regular income, & (ii) those who invests for growth. Generally, the investor prefers current dividend over the future growth.

9. Legal constraints: Section 123 of the Companies Act, 2013 came into force from 1st April, 2014 which provides for declaration of dividend. According to this section:

Dividend shall be declared or paid by a company for any financial year only:

(a) out of the profits of the company for that year arrived at after providing for depreciation in accordance with the provisions of section 123(2), or

(b) out of the profits of the company for any previous financial year or years arrived at after providing for depreciation in accordance withthe provisions of that sub-section and remaining undistributed, or

(c) out of both; or

(d) out of money provided by the Central Government or a State Government for the payment of dividend by the company in pursuance of a guarantee given by that Government.

10.Taxation: As per Section 115-O of Income Tax Act, 1961, dividend is subject to dividend distribution tax (DDT) in the hands of the company. Under the existing provisions of Section 10(34) of the Act dividend which suffer DDT under section 115-O is exempt in the hands of the shareholder.

DIVIDEND'S IRRELEVANCE THEORY

MODIGLIANI AND MILLER (M.M) HYPOTHESIS:

Modigliani – Miller theory was proposed by Franco Modigliani and Merton Miller in 1961. MM approach is in support of the irrelevance of dividends i.e. firm's dividend policy has no effect on either the price of a firm's stock or its cost of capital.

Assumptions of M.M HypothesisMM hypothesis is based on the following assumptions:

•**Perfect capital markets:** The firm operates in a market in which all investors are rational and information is freely available to all.

•**No taxes or no tax discrimination** between dividend income and capital appreciation (capital gain): This assumption is necessary for the universal applicability of the theory, since, the tax rates or provisions to tax income may be different in different countries.

•**Fixed investment policy:** It is necessary to assume that all investment should be financed through equity only, since, implication after using debt as a source of finance may be difficult to understand. Further, the impact will be different in different cases.

•**No floatation or transaction cost:** Similarly, these costs may differ country to country or market to market

.

•**Risk of uncertainty does not exist**. Investors are able to forecast future prices and dividend with certainty and one discount rate is appropriate for all securities and all time periods. According to MM hypothesis.

•**Market value of equity shares** of its firm depends solely on its earning power and is not influence by the manner in which its earnings are split between dividends and retained earnings.

•**Market value of equity shares is not affected by dividend size**. MM hypothesis is primarily based on the arbitrage argument. Through the arbitrage process, MM hypothesis discusses how the value of the firm remains same whether the firm pays dividend or not.

$$P_o = \frac{P_1 + D_1}{1 + K_e}$$

Where,

P_o= Price in the beginning of the period.

P_1= Price at the end of the period.

D_1= Dividend at the end of the period.

Ke= Cost of equity/ rate of capitalization/ discount rate.

As per MM hypothesis, the value of firm will remain unchanged due to dividend decision.

Advantages of MM Hypothesis :

1. This model is logically consistent.
2. It provides a satisfactory framework on dividend policy with the the concept of Arbitrage process.

Limitations of MM Hypothesis:

1. Validity of various assumptions is questionable.
2. This model may not be valid under uncertainty

DIVIDEND POLICY

It means when company earns profit , then company need to decide what to do , whether distribute all PAT to shareholders or retained for future growth of the company.

Types of Dividend Policy

- Regular dividend Policy
- Stable dividend Policy
- Irregular dividend Policy
- No dividend Policy

1. Regular dividend Policy

The company follow the procedure to pay out the dividend to it's shareholders every year. If company earns **ABNORMAL PROFIT** (AP= Actual Profit – Expected Profit) then it retains the extra profit on the other side if it remains in loss any year then also it pays the dividend .This kind of policy adopted by those companies who are having stable earnings and steady cashflow. The class of investors putting their money into these companies is generally risk averse who mainly belongs to the retire and weaker section of the society's and aims at regular income .The main demerit of this policy is investors cannot expect an increase in dividend even in if the market is relatively booming high.

2. Stable dividend Policy

Under this type of dividend policy, the company follows the procedure to pay out a defined fixed percentage of profits as dividends every year. For example, suppose a company sets

the payout rate at 10% then this percentage of profit will be paid out as dividends every year regardless of the quantum of profit.

For example Whether a company makes a profit of $1 million or $200000, a fixed rate of dividend will be paid out to the shareholders. In the eyes of investors, the company adopting this policy is considered as risky because amount of dividend fluctuates with the level of profit.

3. Irregular dividend Policy

Under this type of dividend policy company states that it has no obligation in respect of paying dividend.

The quantum and rate of dividend will decided by the board of directors who will take the decision in respect of action to be taken with earned profit. The board might take the decision to distribute dividend for gaining confidence among the investors so that they will invest more into the company and companies liquidity will increase.

On the other hand , board take the decision distribute no or less amount of dividend with the aim of increasing the growth of the companies by using retained earnings.

Moreover , this type of dividend policy adopted by companies having irregular cash flow.

4. No dividend Policy

Under this policy , the company follow the procedure of paying no dividend to the shareholders and dividend payout ratio is zero percent.The total earnings will be retained by the company with the objective of re investing into company model of business to expand it further with an increased rate and without hurdling to the issues like liquidity .

UNIT – 3

WORKING CAPITAL MANAGEMENT

MEANING AND CONCEPT OF WORKING CAPITAL

In accounting term working capital is the difference between current assets and current liabilities.

If we break down the components of working capital we will found working capital as follows:

Working Capital = Current Assets – Current Liabilities

Current Assets: An asset is classified as current when:

(i) It is expected to be realised or intends to be sold or consumed in normal operating cycle of the entity;

(ii) The asset is held primarily for the purpose of trading;

(iii) It is expected to be realised within twelve months after the reporting period;

It is non- restricted cash or cash equivalent. Generally current assets of an entity, for the purpose of working capital management can be grouped into the following main heads:

(a) Inventory (raw material, work in process and finished goods)

(b) Receivables (trade receivables and bills receivables)

(c) Cash or cash equivalents (short-term marketable securities)

(d) Prepaid expenses

Current Liabilities: A liability is classified as current when:

(i) It is expected to be settled in normal operating cycle of the entity.

(ii) The liability is held primarily for the purpose of trading

(iii) It is expected to be settled within twelve months after the reporting period Generally current liabilities of an entity, for the purpose of working capital management can be grouped into the following main heads:

(a) Payable (trade payables and bills receivables)
(b) Outstanding payments (wages & salary etc.)

In general Working capital management is essentially managing Current Assets. Management of working capital arises as a part of the process of such management.

IMPORTANCE OF ADEQUATE WORKING CAPITAL

Management of working capital is an essential task of the finance manager. He has to ensure that the amount of working capital available is neither too large nor too small for its requirements. A large amount of working capital would mean that the company has idle funds. Since funds have a cost, the company has to pay huge amount as interest on such funds. If the firm has inadequate working capital, such firm runs the risk of insolvency. Paucity of working capital may lead to a situation where the firm may not be able to meet its liabilities.

The various studies conducted by the Bureau of Public Enterprises have shown that one of the reasons for the poor performance of public sector undertakings in our country has been the large amount of funds locked up in working capital. This results in over capitalization. Over capitalization implies that a company has too large funds for its requirements, resulting in a low rate of return, a situation which implies a less than optimal use of resources. A firm, therefore, has to be very careful in estimating its working capital requirements.

Maintaining adequate working capital is not just important in the short-term. Sufficient liquidity must be maintained in order to ensure the survival of the business in the long-term as well. When businesses make investment decisions they must not only consider the financial outlay involved with acquiring the new machine or the new building, etc., but must also take account of the additional current assets that are usually required with any expansion of activity.

- Increased production leads to holding of additional stocks of raw materials and work-in-progress.
- An increased sale usually means that the level of debtors will increase.
- A general increase in the firm's scale of operations tends to imply a need for greater levels of working capital.

MANAGEMENT OF WORKING CAPITAL

The working capital of an entity can be termed as for example, life blood if an entity is compared with a living body; lubricant/ fuel if is an entity is compared with an engine. Working capital is required for smooth functioning of the business of an entity as lack of this may interrupt the ordinary activities. Hence, the working capital needs adequate attention and efficient management.

When we talk about the management it involves 3 Es i.e. Economy, Efficiency and Effectiveness and all these three are required for the working capital management.The scope of working capital management can be grouped into two broad areas (i) Profitability and Liquidity and (ii) Investment and Financing Decision.

Liquidity and Profitability

For uninterrupted and smooth functioning of the day to day business of an entity it is important to maintain liquidity of funds evenly. As we have already learnt in previous chapters that each rupee of capital bears some cost. So, while maintaining liquidity the cost aspect needs to be borne in mind. Unnecessary tying up of funds in idle assets not only reduces the liquidity but also reducing the opportunity to earn better return from a productive asset. Hence, a trade-off is required between the liquidity and profitability which increases the profitability without disturbing the day to day functioning. This requires 3Es as discussed above i.e. economy in financing, efficiency in utilisation and effectiveness in achieving the intended objectives.

NEEDS OF WORKING CAPITAL

Working Capital is an essential part of the business concern. Every business concern must maintain certain amount of Working Capital for their day-to-day requirements and meet the short-term obligations. Working Capital is needed for the following purposes.

1. **Purchase of raw materials and spares:** The basic part of manufacturing process is, raw materials. It should purchase frequently according to the needs of the business concern.

Hence, every business concern maintains certain amount as Working Capital to purchase raw materials, components, spares, etc.

2. Payment of wages and salary: The next part of Working Capital is payment of wages and salaries to labour and employees. Periodical payment facilities make employees perfect in their work. So a business concern maintains adequate the amount of working capital to make the payment of wages and salaries.

3. Day-to-day expenses: A business concern has to meet various expenditures regarding the operations at daily basis like fuel, power, office expenses, etc.

4. Provide credit obligations: A business concern responsible to provide credit facilities to the customer and meet the short-term obligation. So the concern must provide adequate Working Capital.

WORKING CAPITAL POSITION/ BALANCED WORKING CAPITAL POSITION:

A business concern must maintain a sound Working Capital position to improve the efficiency of business operation and efficient management of finance. Both excessive and inadequate Working Capital lead to some problems in the business concern.

A. Causes and effects of excessive working capital.

(i) Excessive Working Capital leads to unnecessary accumulation of raw
(ii) materials, components and spares.
(iii) Excessive Working Capital results in locking up of excess Working Capital.
(iv) It creates bad debts, reduces collection periods, etc.
(v) It leads to reduce the profits.

B. Causes and effects of inadequate working capital

(i) Inadequate working capital cannot buy its requirements in bulk order.
(ii) It becomes difficult to implement operating plans and activate the firm's profit target.
(iii) It becomes impossible to utilize efficiently the fixed assets.
(iv) The rate of return on investments also falls with the shortage of Working

Capital.

(v) It reduces the overall operation of the business

FACTORS DETERMINING WORKING CAPITAL REQUIREMENTS

Working Capital requirements depends upon various factors. There are no set of rules or formula to determine the Working Capital needs of the business concern. The following are the major factors which are determining the Working Capital requirements.

1. **Nature of business:** Working Capital of the business concerns largely depend upon the nature of the business. If the business concerns follow rigid credit policy and sell goods only for cash, they can maintain lesser amount of Working Capital. A transport company maintains lesser amount of Working Capital while a construction company maintains larger amount of Working Capital.

2. **Production cycle:** Amount of Working Capital depends upon the length of the production cycle. If the production cycle length is small, they need to maintain lesser amount of Working Capital. If it is not, they have to maintain large amount of Working Capital.

3. **Business cycle:** Business fluctuations lead to cyclical and seasonal changes in the business condition and it will affect the requirements of the Working Capital. In the booming conditions, the Working Capital requirement is larger and in the depression condition, requirement of Working Capital will reduce. Better business results lead to increase the Working Capital requirements.

4. **Production policy:** It is also one of the factors which affects the Working Capital requirement of the business concern. If the company maintains the continues production policy, there is a need of regular Working Capital. If the production policy of the company depends upon the situation or conditions, Working Capital requirement will depend upon the conditions laid down by the company.

5. **Credit policy:** Credit policy of sales and purchase also affect the Working Capital requirements of the business concern. If the company maintains liberal credit policy to collect the payments from its customers, they have to maintain more Working Capital. If the company pays the dues on the last date it will create the cash maintenance in hand and bank.
6. **Growth and expansion:** During the growth and expansion of the business concern, Working Capital requirements are higher, because it needs some additional Working Capital and incurs some extra expenses at the initial stages.

7. **Availability of raw materials:** Major part of the Working Capital requirements are largely depend on the availability of raw materials. Raw materials are the basic components of the production process. If the raw material is not readily available, it leads to production stoppage. So, the concern must maintain adequate raw material; for that purpose, they have to spend some amount of Working Capital.

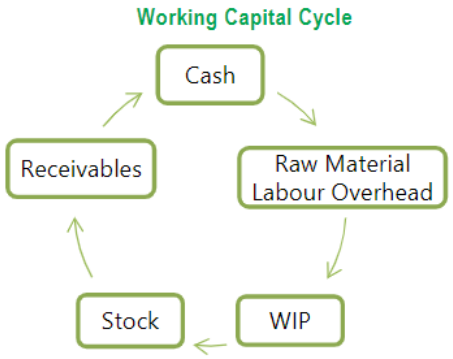
8. **Earning capacity:** If the business concern consists of high level of earning capacity, they can generate more Working Capital, with the help of cash from operation. Earning capacity is also one of the factors which determines the Working Capital requirements of the business concern.

OPERATING/WORKING CAPITAL CYCLE

Definition of Working Capital cycle indicates the length of time between a company's paying for materials, entering into stock and receiving the cash from sales of finished goods. It can be determined by adding the number of days required for each stage in the cycle. For example, a company holds raw materials on an average for 60 days, it gets credit from the supplier for 15 days, production process needs 15 days, finished goods are held for 30 days and 30 days credit is extended to debtors. The total of all these, 120 days, i.e., 60 – 15 + 15 + 30 + 30 days is the total working capital cycle.

The faster a business expands the more cash it will need for working capital and investment. The cheapest and best sources of cash exist as working capital right within business. Good management of working capital will generate cash which will help improve profits and reuce

risks. Bear in mind that the cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits. Each component of working capital (namely inventory, receivables and payables) has two dimensions Time and Money, when it



comes to managing working capital then time is money. If you can get money to move faster around the cycle (e.g. collect monies due from debtors more quickly) or reduce the amount of money tied up (e.g. reduce inventory levels relative to sales), the business will generate more cash or it will need to borrow less money to fund working capital. Similarly, if you can negotiate improved terms with suppliers e.g. get longer credit or an increased credit limit; you are effectively creating free finance to help fund future sales.

The length of operating cycle is the indicator of performance of management. The net operating cycle represents the time interval for which the firm has to negotiate for Working Capital from its bankers. It enables to determine accurately the amount of working capital needed for the continuous operation of business activities.

In the form of an equation, the operating cycle process can be expressed as follows:

Operating Cycle = R + W + F + D – C

Where,

R =Raw material storage period

W =Work-in-progress holding period

F = Finished goods storage period

D = Receivables (Debtors) collection period

C = Credit period allowed by suppliers (Creditors)

PROBLEM 1

From the following information extracted from the books of a manufacturing company, compute the operating cycle in days and the amount of working capital required :

Period Covered	365 days
Average period of credit allowed by suppliers	16 days
Average Total of Debtors Outstanding	480 00
Raw Material Consumption	4,400 00
Total Production Cost	10,000 00
Total Cost of Sales	10,500 00
Sales for the year	16,000 00

Value of Average Stock maintained:	
Raw Material	320 00
Work-in-progress	350 00
Finished Goods	260 00

Solution :

Computation of Operating Cycle

(i) *Raw material held in stock:*

$$\frac{\text{Average stocks of raw materials held}}{\text{Average consumption per day}} = \frac{320}{4{,}400 \times 365}$$

$$= \frac{320 \times 365}{4{,}400} = 275 \text{ days}$$

Less: Average credit period granted by Suppliers $\frac{16 \text{ days}}{11 \text{ days}}$

(ii) *Work-in-progress:*

$$\frac{\text{Average WIP maintained}}{\text{Average cost of production per day}} = \frac{350}{10{,}000/365}$$

$$= \frac{365 \times 320}{10{,}000} = 13 \text{ days}$$

(iii) *Finished good held in stock:*

$$\frac{\text{Average finished goods maintained}}{\text{Average cost of goods sold per days}} = \frac{260}{10{,}500/365}$$

$$= \frac{260 \times 365}{10{,}500} = 9 \text{ days}$$

(iv) *Credit period allowed to debtors:*

$$\frac{\text{Average total of outstanding debtors}}{\text{Average credit sales per day}} = \frac{480}{16{,}000 \times 365}$$

$$= \frac{365 \times 480}{16{,}000} = 11 \text{ days}$$

Total operating cycle period: (i) + (ii) + (iii) + (iv) = 44 days
Number of Operating cycles in a year = 365/44
= 8.30

$$\text{Amount of Working Capital required} = \frac{\text{Total operating cost}}{\text{Number of operating cycles in a year}}$$

= 10,500/8.3
= Rs. 1,265

Alternatively, the amount of working capital could have also been calculated by estimating the components of working capital method, as shown below:

Value of Average Stock Maintained	320
Raw Material	350
Work-in-progress	260
Finished Goods	480
Average Debtors Outstanding:	1,410
Less: Average Creditors Outstanding	145
	1,265

WORKING CAPITAL AND BANKING COMMITTEE

Banking finance to working capital requirements is a very important part of the business concern. Banks provide finance to business concerns to meet the requirements. To regulate and control bank finance, RBI constitute committees. These committees submit reports with findings and recommendations to formulate the finance policy of the banks. The major committee and the recommendations are as follows:

Committee	Year	Major Recommendations
DEHEJIA	1969	Appraisal of credit applications received by banks for granting loan.
TANDON	1975	Banks must carry out the realize appraisal for granting loan Fixation of norms for bank lending to industry.
CHORE	1980	No bifurcation of cash credit accounts separate limits for peak level and non peak level requirements.
MARATHE	1984	Second method of lending to industry, introduction of fast track concept.
KANNAN	1997	Regular conduct with the borrowers, periodical monitoring the credit disposition.

INVENTORY MANAGEMENT

Inventories constitute a major element of working capital. It is, therefore, important that investment in inventory is property controlled. The objectives of inventory management are, to a great extent, similar to the objectives of cash management. Inventory management covers a large number of problems including fixation of minimum and maximum levels, determining the size of inventory to be carried, deciding about the issues, receipts and inspection procedures, determining the economic order quantity, proper storage facilities, keeping check over obsolescence and ensuring control over movement of inventories.

Techniques of Inventory Management

Inventory management consists of effective control and administration of inventories. Inventory control refers to a system which ensures supply of required quantity and quality of inventories at the required time and at the same time prevent unnecessary investment in inventories. It needs the following important techniques.

Techniques based on the order quantity of Inventories:

Order quantity of inventories can be determined with the help of the following techniques:

Stock Level:

Stock level is the level of stock which is maintained by the business concern at all times. Therefore, the business concern must maintain optimum level of stock to smooth running of the business process. Different level of stock can be determined based on the volume of the stock.

Minimum Level:

The business concern must maintain minimum level of stock at all times. If the stocks are less than the minimum level, then the work will stop due to shortage of material.

Re-order Level:

Re-ordering level is fixed between minimum level and maximum level. Re-order level is the level when the business concern makes fresh order at this level.

Re-order level=maximum consumption × maximum Re-order period.

Maximum Level:

It is the maximum limit of the quantity of inventories, the business concern must maintain.

If the quantity exceeds maximum level limit then it will be overstocking.

Maximum level = Re-order level + Re-order quantity

– (Minimum consumption × Minimum delivery period)

Danger Level:

It is the level below the minimum level. It leads to stoppage of the production process.

Danger level=Average consumption ×Maximum re-order period for emergency purchase

Calculation of Average Stock Level:

$$\text{Average stock level} = \text{Minimum stock level} + \frac{\text{½ of re-order quantity}}{\text{maximum level}}$$

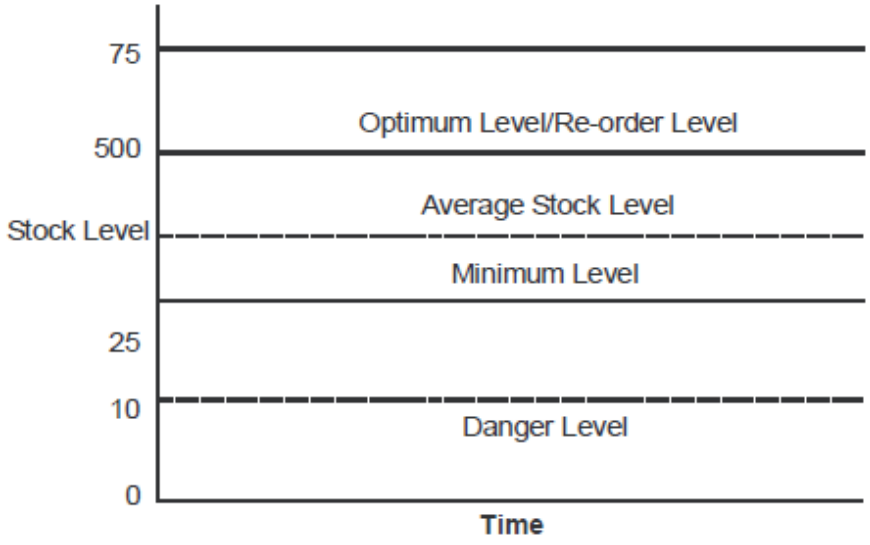


***Fig. 11.2** Determining the Stock Level*

Lead Time:

Lead time is the time normally taken in receiving delivery after placing orders with suppliers. The time taken in processing the order and then executing it is known as lead time.

Safety Stock:

Safety stock implies extra inventories that can be drawn down when actual lead time and/ or usage rates are greater than expected. Safety stocks are determined by opportunity cost and carrying cost of inventories. If the business concerns maintain low level of safety stock, it will lead to larger opportunity cost and the larger quantity of safety stock involves higher carrying costs.

Economic Order Quantity (EOQ):

EOQ refers to the level of inventory at which the total cost of inventory comprising ordering cost and carrying cost. Determining an optimum level involves two types of cost such as ordering cost and carrying cost. The EOQ is that inventory level that minimizes the total of ordering of carrying cost.

EOQ can be calculated with the help of the mathematical formula:

$$EOQ = \sqrt{2ab/c}$$

Where,

a = Annual usage of inventories (units)
b = Buying cost per order
c = Carrying cost per unit

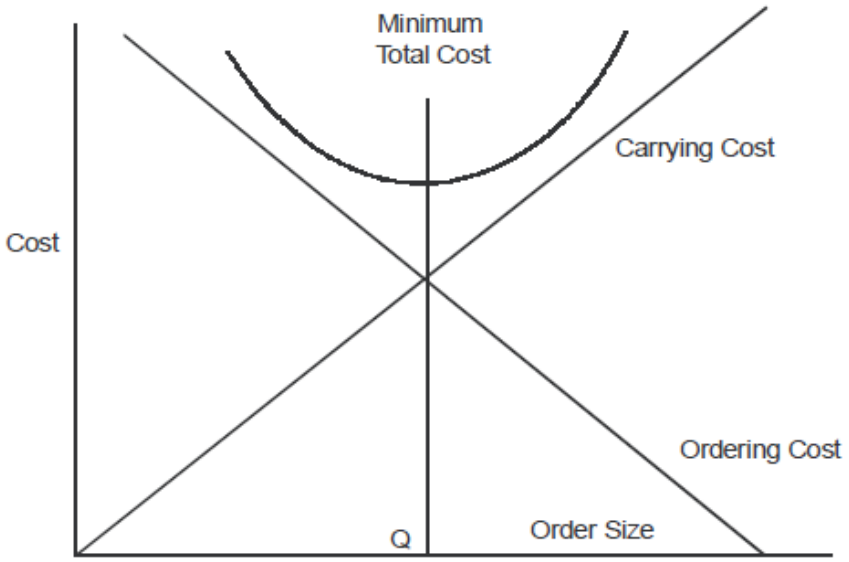


***Fig. 11.3** Economic Order Quantity*

Illustrations

1. A company's requirements for ten days are 6,300 units. The ordering cost per order is ` 10 and the carrying cost per unit is ` 0.26. You are required to CALCULATE the economic order quantity

Solution :

The economic order quantity is:

$$EOQ = \sqrt{\frac{2 \times 6,300 \times 10}{0.26}} = \sqrt{\frac{1,26,000}{0.26}} = 700 \text{ units (approx).}$$

2. Marvel Limited uses a large quantity of salt in its production process. Annual consumption is 60,000 tonnes over a 50-week working year. It costs ` 100 to initiate and process an order and delivery follow two weeks later. Storage costs for the salt are estimated at ` 0.10 per tonne per annum. The current practice is to order twice a year when the stock falls to 10,000 tonnes. IDENTIFY an appropriate ordering policy for Marvel Limited, and contrast it with the cost of the current policy.

Solution :

The recommended policy should be based on the EOQ model.

F = ₹ 100 per order

S = 60,000 tonnes per year

H = ₹ 0.10 per tonne per year

Substituting : $EOQ = \sqrt{\frac{2 \times 100 \times 60,000}{0.10}}$ = 10,954 tonnes per order

Number of orders per year = 60,000/10,954 = 5.5 orders

Re-order level = 2×60,000/50 = 2,400 tonnes

Total cost of optimum policy = holding costs + ordering costs

= (0.1×10954)/2 + (100×60,000)/10,954

= 547.70 + 547.74 = ₹ 1,095

To compare the optimum policy with the current policy, the average level of stock under the current policy must be found. An order is placed when stock falls to 10,000 tonnes, but the lead time is two weeks. The stock used in that time is (60,000×2)/50 = 2,400 tonnes. Before delivery, inventory has fallen to (10,000 – 2,400) = 7,600 tonnes. Orders are made twice per year, and so the order size = 60,000/2 = 30,000 tonnes. The order will increase stock level to 30,000 + 7,600 = 37,600 tonnes. Hence the average stock level = 7,600 + (30,000/2) = 22,600 tonnes. Total costs of current policy = (0.1×22,600) + (100×2) = ` 2,460 per year. Advise: The recommended policy should be adopted as the costs (` 1,365 per year) are less than the current policy.

3. Find out the economic order quantity and the number of orders per year from the following information:

   Annual consumption: 36,000 units

   Purchase price per units: Rs. 54

   Ordering cost per order: Rs. 150

   Inventory carrying cost is 20% of the average inventory.

   Solution :

$$\text{Inventory} = \sqrt{\frac{2AO}{C}}$$

$$A = 36{,}000 \text{ units}$$

$$O = \text{Rs. } 150$$

$$C = 20\% \text{ of } 54 \times 10 \times 8$$

$$\sqrt{2 \times 36{,}000 \times 150} = 1{,}000 \text{ units}$$

$$EOQ = 1{,}000 \text{ units}$$

Exercise 2

From the following information calculate, (1) Re-order level (2) Maximum level (3) Minimum level (4) Average level

Normal usage: 100 units per week

Maximum usage: 150 units per week

Minimum usage: 50 units per week

Re-order quantity (EOQ) 500: units

Log in time: 5 to 7 weeks

Solution

(1) Re-order Level

= Maximum consumption × Maximum Re-order period

= 150 × 7 = 1050 units

(2) Maximum Level

= Re-order level + Re-order quantity

−(Minimum consumption × Minimum delivery period)

= 1050 + 500 – (50 × 5) = 1300 units

(3) Minimum Level

= Re-order level – (Normal consumption × Normal delivery period)

= 1050 – (100 × 6) = 450 units

(4) Average Level

$$= \frac{\text{Maximum level} + \text{Minimum level}}{2}$$

$$= \frac{1300 + 450}{2} = 875 \text{ units.}$$

TREASURY MANAGEMENT:

In the wake of the competitive business environment resulting from the liberalization of the economy, there is a pressure to manage cash scientifically. The demand for funds for expansions coupled with high interest rates, foreign exchange volatility and the growing volume of financial transactions have necessitated efficient management of money.

Treasury management is defined as 'the corporate handling of all financial matters, the generation of external and internal funds for business, the management of currencies and cash flows and the complex, strategies, policies and procedures of corporate finance.

The treasury management mainly deals with:-

- Working capital management; and
- Financial risk management (It includes forex and interest rate management).

The key goals of treasury management are:-

- Maximize the return on the available cash
- Minimize interest cost on borrowings;
- Mobilise as much cash as possible for corporate ventures (in case of need); and
- Effective dealing in forex, money and commodity markets to reduce risks arising because of fluctuating exchange rates, interest rates and prices which can affect the profitability of the organization.

William J. Baumol's Economic Order Quantity Model, (1952)

According to this model, optimum cash level is that level of cash where the carrying costs and transactions costs are the minimum. The carrying costs refer to the cost of holding cash, namely, the interest foregone on marketable securities. The transaction costs refer to the cost involved in getting the marketable securities converted into cash. This happens when the firm falls short of cash and has to sell the securities resulting in clerical, brokerage,

registration and other costs. The optimum cash balance according to this model will be that point where these two costs are minimum. The formula for determining optimum cash balance is

$$C=\sqrt{\frac{2U\times P}{S}}$$

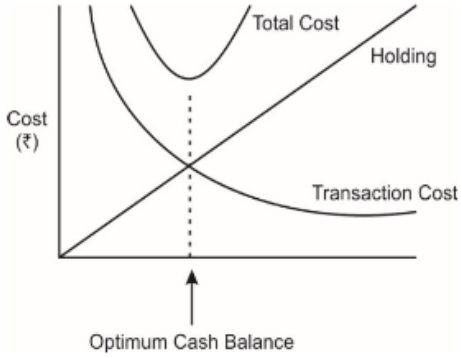
Where, C = Optimum cash balance

U = Annual (or monthly) cash disbursement

P = Fixed cost per transaction.

S = Opportunity cost of one rupee p.a. (or p.m.)

This can be explained with the following diagram:



The model is based on the following assumptions:

(i) Cash needs of the firm are known with certainty.

(ii) The cash is used uniformly over a period of time and it is also known with certainty.

(iii) The holding cost is known and it is constant.

(iv) The transaction cost also remains constant.

Problem 1

A firm maintains a separate account for cash disbursement. Total disbursement are ` 1,05,000 per month or ` 12,60,000 per year. Administrative and transaction cost of transferring cash to disbursement account is ` 20 per transfer. Marketable securities yield is 8% per annum. DETERMINE the optimum cash balance according to William J. Baumol model.

SOLUTION

$$\text{The optimum cash balance } C = \sqrt{\frac{2 \times ₹12,60,000 \times ₹20}{0.08}} = ₹25,100$$

1. Baumol model

The basic objective of the Baumol model is to determine the minimum cost amount of cash conversion and the lost opportunity cost.

It is a model that provides for cost efficient transactional balances and assumes that the demand for cash can be predicated with certainty and determines the optimal conversion size.

Total conversion cost per period can be calculated with the help of the following formula:

$$t = \frac{Tb}{C}$$

where,

T = Total transaction cash needs for the period
b = Cost per conversion
C = Value of marketable securities

Opportunity cost can be calculated with the help of the following formula;

$$i = \frac{C}{2}$$

where,

i = interest rate earned
C/2 = Average cash balance

Optimal cash conversion can be calculated with the help of the following formula;

$$C = \sqrt{\frac{2bT}{i}}$$

where,

C = Optimal conversion amount
b = Cost of conversion into cash per lot or transaction
T = Projected cash requirement
i = interest rate earned

2. *Miller-Orr model*

This model was suggested by Miller Orr. This model is to determine the optimum cash balance level which minimises the cost of management of cash. Miller-Orr Model can be calculated with the help of the following formula;

$$C = \frac{bE\,(N)}{t} + iE\,(M)$$

where,

C = Total cost of cash management
b = fixed cost per conversion
E(M) = expected average daily cash balance
E (N) = expected number of conversion
t = Number of days in the period
i = lost opportunity cost

3. *Orgler's model*

Orgler model provides for integration of cash management with production and other aspects of the business concern. Multiple linear programming is used to determine the optimal cash management.

Orgler's model is formulated, based on the set of objectives of the firm and specifing the set of constrains of the firm.

Cash Management

Exercise 14

A Company expects to have Rs. 37500 cash in hand on 1st April, and requires you to prepare an estimate of cash position during the three months.

April, May and June the following information is supplied to you:

Month	Sales Rs.	Purchases Rs.	Wages Rs.	Factory Expenses Rs.	Office Expenses Rs.	Selling Expenses Rs.
Feb	75,000	45,000	9,000	7,500	6,000	4,500
March	84,000	48,000	9,750	8,250	6,000	4,500
April	90,000	52,500	10,500	9,000	6,000	5,250
May	1,20,000	60,000	13,500	11,250	6,000	6,570
June	1,35,000	60,000	14,250	14,000	7,000	7,000

Other Information:

(i) Period of credit allowed suppliers 2 months.
(ii) 20% of sales for cash and period of credit allowed to customers for credit is one month.
(iii) Delay in payment of all expenses:1 month.

(iv) Income tax of Rs. 57,500 is due to be paid on June 15th.

(v) The company is to pay dividend to shareholders and bonus to workers of Rs. 15,000 and Rs. 22,500 respectively in the month of April.

(vi) A plant has been ordered to be received and paid in May. It will cost Rs. 1,20,000.

(Periyar University M.Com., Nov. 2005)

Cash Budgets of April, May, June

Particulars	April	May	June
Opening Balance b/d	37,500	10,950	
Sales (i) Cash 20%	18,000	24,000	27,000
(ii) Credit sales (One month)	67,200	72,000	96,000
Total Receipts (A)	**1,22,700**	**1,06,950**	**1,23,000**
Payments :			
Purchase	45,000	48,000	52,500
Wages	10,500	13,500	14,250
Factory Expenses	8,250	9,000	11,250
Office Expenses	6,000	6,000	6,000
Selling Expenses	4,500	5,250	6,570
Income Tax	–	–	57,500
Dividend to Shareholders	15,000	–	–
Bonus to workers	22,500	–	–
Plant Cost	–	1,20,000	–
Total Payments (B)	1,11,750	2,01,750	1,48,070
Balance c/d (A-B)	10,950	(–)94,800	(–)25,070
Bank Overdraft	–	(+)94,800	(+)25,070

Assumed that the company has arranged overdraft facility.

UNIT – 4

INTERNATIONAL FINANCIAL MANAGEMENT

THE ESSENCE OF INTERNATIONAL FINANCIAL MANAGEMENT

IFM - is a popular concept which means management of finance in an international business environment, it implies, doing of trade and making money through the exchange of foreign currency.

The international financial activities help the organizations to connect with international dealings with overseas business partners - customers, suppliers, lenders. It is also used by government organization and non-profit institutions.

The main objective of international financial management is to **maximize shareholder wealth**.

Adam Smith wrote in his famous title, "**Wealth of Nations**" that if a foreign country can supply us with a commodity Cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own in which we have some advantage.

BASIC FUNCTIONS OF INTERNATIONAL FINANCIAL MANAGEMENT:

Acquisition of funds (Financial Decision): This function generating funds from internal as well as external sources. The effort is to get funds at the lowest cost possible.

Investment Decision: It is concerned with deployment of the acquired funds in a manner so as to **maximize shareholder** wealth. Other decisions relate to dividend payment, working capital and capital structure etc.

NATURE & SCOPE OF INTERNATIONAL FINANCIAL MANAGEMENT:

- Financial Planning Analysis
- Fund Acquisition
- Investment Financing
- Cash Management

- Investment Decision And
- Risk Management
- External Reporting
- Tax Planning and Management
- Management Information System
- Financial and Management Accounting
- Budget Planning and Control.

ENVIRONMENT AT INTERNATIONAL LEVEL

- The knowledge of latest changes in Forex Rates
- Instability in Capital Market
- Interest Rate Fluctuations
- Macro Level Charges
- Micro Level Economic Indicators
- Savings Rate
- Consumption Pattern
- Investment Behavior of Investors
- Export And Import Trends
- Competition
- Banking Sector Performance
- Inflationary Trends
- Demand and Supply Conditions Etc.

CAPITAL BUDGETING

It is the planning process used to determine whether an organization's long term investments such as new machinery, replacement machinery, new plants, new products, and research development projects are worth the funding of cash through the firm's capitalization structure.

It is the process of allocating resources for major capital, or investment, expenditures.

One of the primary goals of capital budgeting investments is to increase the value of the firm to the shareholders.

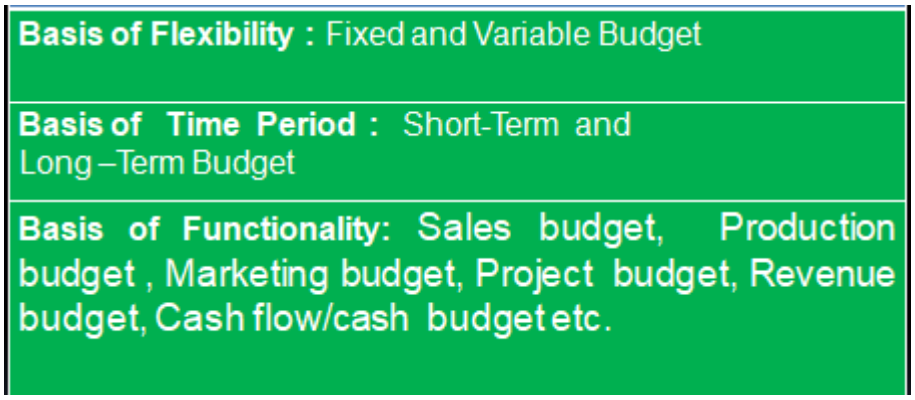
DEFINITION: CAPITAL

Capital refers to the financial resources that businesses can use to fund their operations like cash, machinery, equipment and other resources. These are the assets that allow the business to produce a product or service to sell to customers.

DEFINITION OF BUDGET

- **Budgeting** is a management tool for planning and controlling future activity.
- **Budget** is a financial plan and a list of all planned expenses and revenues.

BUDGET TYPES



DEFINITION CAPITAL BUDGETING

"Capital Budgeting is acquiring inputs with long – terms returns" – Richard and Green Law

"CB is a long-term planning for making and financing proposed capital out lays". – Charles T Hrongreen.

NEED & IMPORTANCE OF CAPITAL BUDGETING

- Growth (know future or the growth)
- ž Huge Amount (required)
- ž Irreversibility (very rigid investment)
- ž Complexity (complex investments)

- ž Risk(risk involved in investments)
- ž Long term implications (long term investments and returns)

NEED AND IMPORTANCE OF CAPITAL BUDGETING

1. **Huge investments:** Capital budgeting requires huge investments of funds, but the available funds are limited, therefore the firm before investing projects, plan are control its capital expenditure.
2. **Long-term:** Capital expenditure is long-term in nature or permanent in nature. Therefore financial risks involved in the investment decision are more. If higher risks are involved, it needs careful planning of capital budgeting.
3. **Irreversible:** The capital investment decisions are irreversible, are not changed back. Once the decision is taken for purchasing a permanent asset, it is very difficult to dispose off those assets without involving huge losses.
4. **Long-term effect:** Capital budgeting not only reduces the cost but also increases the revenue in long-term and will bring significant changes in the profit of the company by avoiding over or more investment or under investment. Over investments leads to be unable to utilize assets or over utilization of fixed assets. Therefore before making the investment, it is required carefully planning and analysis of the project thoroughly.

CAPITAL BUDGETING PROCESS

Capital budgeting is a difficult process to the investment of available funds. The benefit will attained only in the near future but, the future is uncertain. However, the following steps followed for capital budgeting, then the process may be easier are.

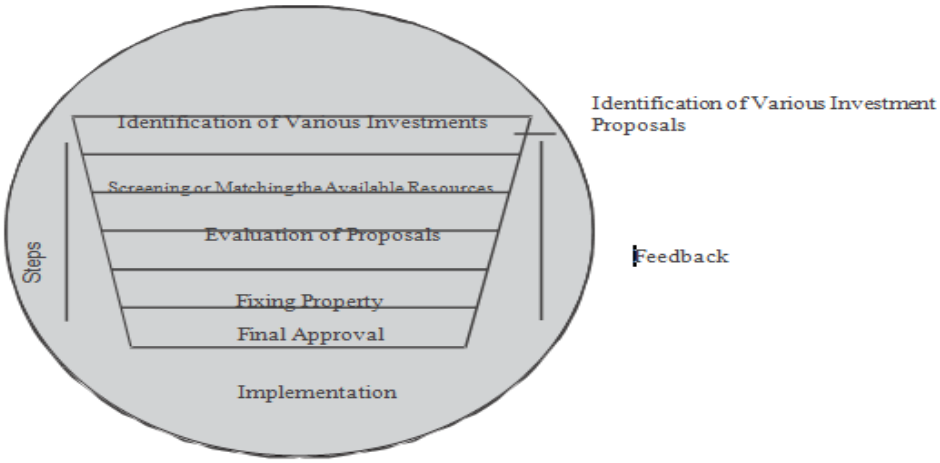


***Fig. 9.1** Capital Budgeting Process*

1. **Identification of various investments proposals:** The capital budgeting may have various investment proposals. The proposal for the investment opportunities may be defined from the top management or may be even from the lower rank. The heads of various department analyse the various investment decisions, and will select proposals submitted to the planning committee of competent authority.
2. **Screening or matching the proposals:** The planning committee will analyse the various proposals and screenings. The selected proposals are considered with the available resources of the concern. Here resources referred as the financial part of the proposal. This reduces the gap between the resources and the investment cost.
3. **Evaluation:** After screening, the proposals are evaluated with the help of various methods, such as pay back period proposal, net discovered present value method, accounting rate of return and risk analysis. Each method of evaluation used in detail in the later part of this chapter. The proposals are evaluated by.

   (a) Independent proposals

   (b) Contingent of dependent proposals

   (c) Partially exclusive proposals.

   Independent proposals are not compared with another proposals and the same may be accepted or rejected. Whereas higher proposals acceptance depends upon the other one or more proposals. For example, the expansion of plant machinery leads to

constructing of new building, additional manpower etc. Mutually exclusive projects are those which competed with other proposals and to implement the proposals after considering the risk and return, market demand etc.

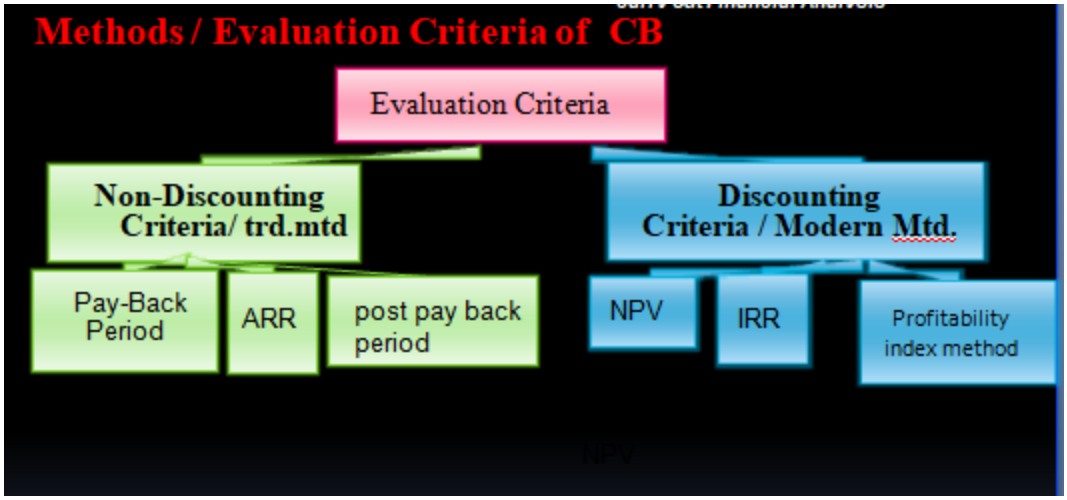
4. **Fixing property:** After the evolution, the planning committee will predict which proposals will give more profit or economic consideration. If the projects or proposals are not suitable for the concern's financial condition, the projects are rejected without considering other nature of the proposals.
5. **Final approval:** The planning committee approves the final proposals, with the help of the following:
   (a) Profitability
   (b) Economic constituents
   (c) Financial violability
   (d) Market conditions.

   The planning committee prepares the cost estimation and submits to the management.
6. **Implementing:** The competent autherity spends the money and implements the proposals. While implementing the proposals, assign responsibilities to the proposals, assign responsibilities for completing it, within the time allotted and reduce the cost for this purpose. The network techniques used such as PERT and CPM. It helps the management for monitoring and containing the implementation of the proposals.
7. **Performance review of feedback:** The final stage of capital budgeting is actual results compared with the standard results. The adverse or unfavourable results identified and removing the various difficulties of the project. This is helpful for the future of the proposals.

CAPITAL BUDGETING PROCESS / STEPS IN CAPITAL BUDGETING

- Identification of various investments proposals
- Screening or matching the proposals
- Evaluation
- Fixing property
- Final approval
- Implementing
- Performance review of feedback

METHODS OF CAPITAL BUDGETING:



I. Traditional method :

Non discounting: Pay-Back Period

1. **Pay-Back Period Method-** It is defined as the number of years required to recover original cost invested in a project. It has two conditions

- **When cash inflow is constant every year**

  PBP= Initial investment / Annual cash inflow

- **When cash inflow are not constant every year**

$$\text{PBP} = \text{Completed years} + \frac{\text{Required inflow}}{\text{In flow of next year}} * 12$$

Note: Accept / reject criteria : if the actual pay back period is less than the predetermined pay back period the project would be accepted . If not it would be rejected

2. Average Rate of Return:

Average Rate of Return (ARR) refers to the percentage rate of return that is expected on an investment or asset is the initial investment cost or average investment over the life of the project. The formula for an average rate of return is derived by dividing the average annual net earnings after taxes or return on the investment by the original investment or the average investment during the life of the project and then expressed in terms of percentage.

Note: Accept or reject criteria: if the actual accounting rate of return is more than the per-determined required rate of return, the project would be accepted. If not it would be rejected

Formula

- ARR on Average investment = $\frac{\text{Average Profit After Tax}}{\text{Average Investment}} * 100$
- ARR on Initial investment = $\frac{\text{Average Profit After Tax}}{\text{Initial Investment}} * 100$

3. Post pay back profitability mtd.

- By considering major drawback of payback period method, one more method is suggested i.e. Post Payback Profitability. **Under this method, the cash inflows after payback period is taken into account for considering the profitability of the project.** It can be calculated in the following manners.

- ***I. step :*** **Post Payback Profitability**
- ***A)In case of even cash inflow , the following formula is used.***

Post Payback Profitability

= Annual Cash Inflow (Estimated Life - Payback Period)

B) In case of uneven cash inflows, the following formula is used.

Post Payback Profitability

= Total Annual Cash Flows – Initial Investment

II) Step: Post payback profitability index

- Post payback profitability is used if the cost of the projects are equal. If not so, post pay back profitability Index can be calculated for it. The following formula is used to calculate Post Payback Profitability Index.
- **Post Payback Profitability Index = (Post Payback Period Cash Inflow / Initial Investment) x100**
- Generally, post payback profitability index is expressed in percentage.

II. Modern Method:

Discounting Criteria: Net Present Value

1. Net Present Value Method:- It is the best method for evaluation of investment proposal. This method takes into account time value of money.

NPV= PVF * Cash Flow – Initial investment

Note: total of PVF * Cash Flow of all the year – investment

PVF or DF = $1/(1+r)^n$

where : r= rate, n = no. of yrs.

Accept if	NPV>0
Reject	NPV<0
May or may not accept	NPV=0

Discounting Criteria: Internal Rate of Return

2. Internal Rate of Return Method:- IRR is the rate of return that a project earns. The rate of discount calculated by trial and error , where the present value of future cash flows is equal to the present value of outflows, is known as the Internal Rate of Return.

$$IRR = \text{Higher Rate} - \frac{\text{NPV of Higher Rate}}{\text{Difference in cash flows}} * \text{Difference in Rate}$$

$$IRR = \text{Lower Rate} + \frac{\text{NPV of Lower Rate}}{\text{Difference in cash flows}} * \text{Difference in Rate}$$

When we only have to calculate the returns then:

Step 1. Fack Pay back period (in yrs) = initial investment / Avg. cash flow

Avg. cash floe = total cash flow / No. of yrs

Step 2. NPV = PV – Initial investments

Note: if the answer is –ve go with the lesser rate

if the answer is +ve go with the Higher rate

Step 3.

$$IRR = \text{Lower rate} + \frac{\text{NPV at lower dis. Rate}}{\text{NPV at lower dis. Rate} - \text{NPV at higher dis. Rate}} * \text{Difference rate}$$

Discounting Criteria: Profitability Index

3. Profitability Index Method – As the NPV method it is also shows that project is accepted or not. If Profitability index is higher than 1, the proposal can be accepted.

Accepted	PI>1
Rejected	PI<1

$$\text{Profitability index} = \frac{\text{Total Cash Inflows}}{\text{Total Cash Outflows}}$$

WORKING CAPITAL MANAGEMENT:

Working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the interrelations that exist between them.

Current assets refer to those assets which in the ordinary course of business can be, or will be, converted into cash within one year without undergoing a diminution in value and without disrupting the operations of the firm.

Examples- cash, marketable securities, accounts receivable and inventory.

Current liabilities are those liabilities which are intended, at their inception, to be paid in the ordinary course of business, within a year, out of the current assets or the earnings of the concern.

Examples- accounts payable, bills payable, bank overdraft and outstanding expenses.

GOAL OF WORKING CAPITAL MANAGEMENT:

To manage the firm's current assets and liabilities in such a way that a satisfactory

level of working capital is maintained

TYPES OF WORKING CAPITAL:

The working capital need can be bifurcated into permanent working capital and temporary working capital.

Permanent working capital- There is always a minimum level of working capital which is continuously required by a firm in order to maintain its activities like cash, stock and other current assets in order to meet its business requirements irrespective of the level of operations.

Dividend Policy:

Dividend policy is concerned with financial policies regarding paying cash dividend in the present or paying an increased dividend at a later stage. Whether to issue dividends, and what amount, is determined mainly on the basis of the company's unappropriated profit and influenced by the company's long- term earning power. When cash surplus exists and is not needed by the firm, then management is expected to pay out some or all of those surplus earnings in the form of cash dividends or to repurchase the company's stock through a share buyback program.

Temporary working capital:

Over and above the permanent working capital, the firm may also require additional working capital in order to meet the requirements arising out of fluctuations in sales volume. This extra

working capital needed to support the increased volume of sales is known as temporary or fluctuating working capital.

FACTORS DETERMINING DIVIDEND POLICY:

- Company Policy
- Stability in Earnings
- Liquidity of the Co.
- Past Dividend Rates
- Projects under Consideration
- Market Expectation
- Taxation
- Legal restriction
- Independent Opportunities
- Restrictions of FIs
- Nature of Business
- Cost of Capital
- Phase of Trade Cycle
- Accumulated Reserves
- Co's Growth Needs
- Bonus Issue

TYPES OF DIVIDEND POLICY:

I. Conservative (innovation and holding traditional values) Dividend Policy
II. Liberal Dividend Policy

I. Conservative (innovation and holding traditional values) Dividend Policy :

- Good Treasury Mgt.
- Stability in Dividend
- Provision for Contingency
- Taxation
- Higher Book Value
- Research Oriented Companies

II. Liberal Dividend Policy

- Handsome Dividend

- A Number of Interim Dividends within a Year
- Regular Issue of Bonus Shares
- Special dividends on Important Occasions
- Taking Care of Enhancing Shareholder Value as much as maximising Profits of the Company

MANAGEMENT ACCOUNTNG

INTRODUCTION

Management accounting can be viewed as Management-oriented Accounting. Basically it is the study of managerial aspect of financial accounting, "accounting in relation to management function". It shows how the accounting function can be re-oriented so as to fit it within the framework of management activity. The primary task of management accounting is, therefore, to redesign the entire accounting system so that it may serve the operational needs of the firm. If furnishes definite accounting information, past, present or future, which may be used as a basis for management action. The financial data are so devised and systematically development that they become a unique tool for management decision.

MANAGEMENT ACCOUNTNG DEFINED

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

OBJECTIVES MANAGEMENT ACCOUNTNG

- To assist the management in promoting efficiency.
- To interpret financial statements to enable the management to formulate future plans.
- To arrange for the systematic allocation of responsibility for implementation of plants and budgets.
- To analyze monetary and non monetary transactions.

- To compare the actual performance with plan & identifying deviations and their causes.
- To prepare budget covering all functions of business.

NEED AND IMPORTANCE OF MANAGEMENT ACCOUNTING:

- Creates harmony between the management & employees.
- Enables the management to improvise its services to its customers.
- Various operations can be planned with the help of accounting information, budgeting & forecasting.
- Avoid business from facing seasonal fluctuations.
- Helps in communicating up to date information to various parties interested in successful working of the business organization.
- The use of management accounting may controlled or even eliminate various types of wastages.
- The management aims to control the cost of production and at the same time increase efficiency of employers.
- Different tools of management accounting have provided validity, objectivity & reliability in business management.

FUNCTIONS OF MANAGEMENT ACCOUNTING

The basic function of management accounting is to assist the management in performing its functions effectively. The functions of the management are planning, organizing, directing and controlling. Management accounting helps in the performance of each of these functions in the following ways:

(i) Provides data: Management accounting serves as a vital source of data for management planning. The accounts and documents are a repository of a vast quantity of data about the past progress of the enterprise, which are a must for making forecasts for the future.

(ii) Modifies data: The accounting data required for managerial decisions is properly compiled and classified. For example, purchase figures for different months may be classified to know total purchases made during each period product-wise, supplier-wise and territory-wise.

(iii) Analyses and interprets data: The accounting data is analyzed meaningfully for effective planning and decision-making. For this purpose the data is presented in a comparative form. Ratios are calculated and likely trends are projected.

(iv) Serves as a means of communicating: Management accounting provides a means of communicating management plans upward, downward and outward through the organization. Initially, it means identifying the feasibility and consistency of the various segments of 8 the plan. At later stages it keeps all parties informed about the plans that have been agreed upon and their roles in these plans.

(v) Facilitates control: Management accounting helps in translating given objectives and strategy into specified goals for attainment by a specified time and secures effective accomplishment of these goals in an efficient manner. All this is made possible through budgetary control and standard costing which is an integral part of management accounting.

(vi) Uses also qualitative information: Management accounting does not restrict itself to financial data for helping the management in decision making but also uses such information which may not be capable of being measured in monetary terms. Such information may be collected form special surveys, statistical compilations, engineering records, etc.

SCOPE OF MANAGEMENT ACCOUNTING:

Management accounting is concerned with presentation of accounting information in the most useful way for the management. Its scope is, therefore, quite vast and includes within its fold almost all aspects of business operations. However, the following areas can rightly be identified as falling within the ambit of management accounting:

(i) **Financial Accounting:** Management accounting is mainly concerned with the rearrangement of the information provided by financial accounting. Hence, management cannot obtain full control and coordination of operations without a properly designed financial accounting system.

(ii) **Cost Accounting:** Standard costing, marginal costing, opportunity cost analysis, differential costing and other cost techniques play a useful role in operation and control of the business undertaking.

(iii) **Revaluation Accounting:** This is concerned with ensuring that capital is maintained intact in real terms and profit is calculated with this fact in mind.

(iv) **Budgetary Control:** This includes framing of budgets, comparison of actual performance with the budgeted performance, computation of variances, finding of their causes, etc.

(v) Inventory Control: It includes control over inventory from the time it is acquired till its final disposal.

(vi) **Statistical Methods**: Graphs, charts, pictorial presentation, index numbers and other statistical methods make the information more impressive and intelligible.

(vii) **Interim Reporting:** This includes preparation of monthly, quarterly, half-yearly income statements and the related reports, cash flow and funds flow statements, scrap reports, etc.

(viii) **Taxation:** This includes computation of income in accordance with the tax laws, filing of returns and making tax payments.

(ix) **Office Services:** This includes maintenance of proper data processing and other office management services, reporting on best use of mechanical and electronic devices.

(x) **Internal Audit:** Develop **Financial Accounting:** Management accounting is mainly concerned with the rearrangement of the information provided by financial accounting. Hence, management cannot obtain full control and coordination of operations without a properly designed financial accounting system.

LIMITATIONS OF MANAGEMENT ACCOUNTING:

- Based on accounting information
- Wide scope-leads to inaccurate results

- Costly-installation
- Evaluationery stage
- Opposition to change- rearrangement of rules and regulations maynot be liked by people.

CAPITAL STRUCTURE – MNC'S

The MNC's Capital Structure Decision:

- The overall capital structure of an MNC is essentially a combination of the capital structures of the parent body and its subsidiaries.

  The capital structure decision involves the choice of debt versus equity financing, and is influenced by both corporate and country characteristics.

1. The MNC's Capital Structure Decision -Corporate Characteristics

- Stability of cash flows. MNCs with more stable cash flows can handle more debt.
- Credit risk. MNCs that have lower credit risk have more access to credit.
- Access to retained earnings. Profitable MNCs and MNCs with less growth may be able to finance most of their investment with retained earnings.
- Guarantees on debt. If the parent backs the subsidiary's debt, the subsidiary may be able to borrow more.
- Agency problems. Host country **shareholders may monitor a subsidiary, though not from the parent's perspective.**

2. The MNC's Capital Structure Decision - Country Characteristics

- Stock restrictions. MNCs in countries where investors have less investment opportunities may be able to raise equity at a lower cost.
- Interest rates. MNCs may be able to obtain loanable funds (debt) at a lower cost in some countries.

- Strength of currencies. MNCs tend to borrow the host country currency if they expect it to weaken, so as to reduce their exposure to exchange rate risk.
- Country risk. If the host government is likely to block funds or confiscate assets, the subsidiary may prefer debt financing.
- Tax laws. MNCs may use more local debt financing if the local tax rates (corporate tax rate, withholding tax rate, etc.) are higher.

Problems on Capital Budget:

Exercise 1

Project cost is Rs. 30,000 and the cash inflows are Rs. 10,000, the life of the project is 5 years. Calculate the pay-back period.

Solution:

PBP= Initial investment / Annual cash inflow

$$= \frac{\text{Rs. } 30{,}000}{\text{Rs. } 10{,}000} = 3 \text{ Years}$$

$$\text{Avg. rate of return} = \frac{\text{Annual Return After tax}}{\text{Investment}} \times 100$$

$$= \frac{\text{Rs. } 10{,}000}{\text{Rs. } 30{,}000} \times 100$$

$$= 33.33\%$$

Exercise 2

A project costs Rs. 20,00,000 and yields annually a profit of Rs. 3,00,000 after depreciation @ 12½% but before tax at 50%. Calculate the pay-back period.

Solution

A. FOR REVENUE INCREASING INVESTMENT PROPOSALS:

Particulars	**Amount**
Sales revenue	-----
Less: Expenses(Fixed and Variable)	-----
Cash flow before Depreciation and Tax (CFBDI) / (PBDI)	-----
Less: Depreciation	-----
Cash flow after Depreciation and before Tax	-----
Less: Tax	-----
Cash flow after Depreciation and Tax (CFADT) / (PADT)	-----
Add: Depreciation	-----
Net Cash flow (NCF) or Cash flow before Depreciation after Tax (CFBDAT)	-----

Net Cash Flow= Sales – Exp – Dep – Tax + Dep (CFBDAT)

Profit after depreciation	3,00,000
Less: Tax 50%	1,50,000
	1,50,000
Add depreciation	
20,00,000 $12\frac{1}{2}$%	2,50,000
Cash in-flow	**4,00,000**

$$\text{Pay-back period} = \frac{\text{Investments}}{\text{Cash in-flow}}$$

$$= \frac{20,00,000}{4,00,000} = 5 \text{ years.}$$

Exercise :3

Certain projects require an initial cash outflow of Rs. 25,000. The cash inflows for 6 years are Rs. 5,000, Rs. 8,000, Rs. 10,000, Rs. 12,000, Rs. 7,000 and Rs. 3,000.

Solution

Year	Cash Inflows (Rs.)	Cumulative Cash Inflows (Rs.)
1	5,000	5,000
2	8,000	13,000
3	10,000	23,000
4	12,000	35,000
5	7,000	42,000
6	3,000	45,000

The above calculation shows that in 3 years Rs. 23,000 has been recovered Rs. 2,000, is balance out of cash outflow. In the 4th year the cash inflow is Rs. 12,000. It means the pay-back period is three to four years, calculated as follows

Pay-back period = 3 years + 2000/12000 × 12 months

= 3 years 2 months.

Exercise 4

From the following particulars, compute:

1. Payback period.
2. Post pay-back profitability and post pay-back profitability index.

(a)	Cash outflow	Rs. 1,00,000
	Annual cash inflow (After tax before depreciation)	Rs. 25,000
	Estimate Life	6 years
(b)	Cash outflow	Rs. 1,00,000
	Annual cash inflow (After tax depreciation)	
	First five years	**Rs. 20,000**
	Next five years	**Rs. 8,000**
	Estimated life	10 Years
	Salvage value (scrap)	Rs. 16,000

Solution

(a) (i) Pay-back period

$$= \frac{\text{Initial investment}}{\text{Annual cash inflows}}$$

$$= \frac{1,00,000}{25,000} = 4 \text{ Years}$$

(ii) Post pay-back profitability

=Cash inflow (Estimated life – Pay-back period)
=25,000 (6 – 4)
=Rs. 50,000

(iii) Post pay-back profitability index
= **(Post Payback Period Cash Inflow / Initial Investment) x100**

$$= \frac{50,000}{1,00,000} \times 100 = 50\%$$

(b) Cash inflows are equal, therefore pay back period is calculated as follows:

(i)

Year	Cash Inflows (Rs.)	Cumulative Cash Inflows (Rs.)
1	20,000	20,000
2	20,000	40,000
3	20,000	60,000
4	20,000	80,000
5	20,000	1,00,000 PBP
6	8,000	1,08,000
7	8,000	1,16,000
8	8,000	1,24,000
9	8,000	1,32,000
10	8,000	1,40,000

(ii) Post pay-back profitability.
= Cash inflow (estimated life – pay-back period)
= 8,000 (10–5)
= 8000×5 = 40,000

(iii) Post pay-back profitability index

(iv) **Post Payback Profitability Index**
= (Post Payback Period Cash Inflow / Initial Investment) x100

$$= \frac{40,000}{1,00,000} \times 100 = 40\%$$

Note: Scrap value is considered while calculating cash out flow/ depreciation. It is ducted.

Exercise 5

A company has two alternative proposals. The details are as follows:

	Proposal I	Proposal II
	Automatic Machine	Ordinary Machine
Cost of the machine	Rs. 2,20,000	Rs. 60,000
Estimated life	5½ years	8 years
Estimated sales p.a.	Rs. 1,50,000	Rs. 1,50,000
Costs : Material	50,000	50,000
Labour	12,000	60,000
Variable Overheads	24,000	20,000

Compute the profitability of the proposals under the return on investment method.

Solution

Profitability Statement

	Automatic Machine	Ordinary Machine
Cost of the machine	**Rs. 2,20,000**	**Rs. 60,000**
Life of the machine	**5½ years**	**8 years**
	Rs.	**Rs.**
Estimated Sales	**(A) 1,50,000**	**1,50,000**
Less : Cost : Material	50,000	50,000
Labour	12,000	60,000
Variable overheads	24,000	20,000
Depreciation (1)	40,000	7,500
Total Cost	**(B) 1,26,000**	**1,37,500**
Avg Profit (A) – (B)	**24,000**	**12,500**

Working:

(1) Depreciation = Cost ÷ Life

Automatic machine = 2,20,000 ÷ 5½ = 40,000

Ordinary machine = 60,000 ÷ 8 = 7,500

$$\text{Return on investment} = \frac{\text{Average profit}}{\text{Original investment}} \times 100$$

$$= \frac{24,000}{2,20,000} \times 100 \qquad \frac{12,500}{60,000} \times 100$$

10.9% 20.8%

Automatic machine is more profitable than the ordinary machine.

Dep. = cost of the asset – scrap/ estimated life

Net Cash Flow= Sales – Exp – Dep – Tax + Dep (CFBDAT)

Exercise 6

From the following information, calculate the net present value of the two project and suggest which of the two projects should be accepted a discount rate of the two.

	Project X	Project Y
Initial Investment	Rs. 20,000	Rs. 30,000
Estimated Life	5 years	5 years
Scrap Value	Rs. 1,000	Rs. 2,000

The profits before depreciation and after taxation (cash flows) are as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5
	Rs.	Rs.	Rs.	Rs.	Rs.
Project x	5,000	10,000	10,000	3,000	2,000
Project y	20,000	10,000	5,000	3,000	2,000

Note : The following are the present value factors @ 10% p.a.

Year	1	2	3	4	5	6
Factor	0.909	0.826	0.751	0.683	0.621	0.564

(MBA, Madurai-Kamaraj University, May 2005)

Solution

PVF=1/(1+r)^n

Year	Cash Inflows		Present Value of Rs. 1 @ 10%	Present Value of Net Cash Inflow	
	Project X Rs.	Project Y Rs.		Project X Rs.	Project Y Rs.
1	5,000	20,000	0.909	4,545	18,180
2	10,000	10,000	0.826	8,260	8,260
3	10,000	5,000	0.751	7,510	3,755
4	3,000	3,000	0.683	2,049	2,049
5	2,000	2,000	0.621	1,242	1,242
Scrap Value	1,000	2,000	0.621	621	1,245
Total present value Initial Investments				24,227 20,000	34,728 30,000
Net present value				4,227	4,728

Project Y should be selected as net present value of project Y is higher.

Exercise 7

The following are the cash inflows and outflows of a certain project.

Year	Outflows	Inflows
0	1,75,000	-
1	5,50,000	35,000
2		45,000
3		65,000
4		85,000
5		50,000

The salvage value at the end of 5 years is Rs. 50,000. Taking the cutoff rate as 10%, calculate net present value.

Year	1	2	3	4	5
P.V.	0.909	0.826	0.751	0.683	0.621

Solution

Year	Cash Inflows Rs.	Present Value Factor @ 10%	Present Value of Cash Inflows
1	35,000	0.909	31,815
2	45,000	0.826	37,170
3	65000	0.751	48815
4	85000	0.683	58055
5	50000	0.621	31050
5(Salvage)	50000	0.621	31050
		Total present value of cash inflows	237955

Less : Total present value of outflows	
Cash outflow at the beginning	1,75,000
+ Cash outflow at the end of first Year 50000×0.909	45,450
Total value of outflows	2,20,450
Net Present Value(237955-220450)	17,505

If the cash inflows are not given in that cases the calculation of cash inflows are Net profit after tax + Depreciation. In this type of situation first find out the Net profit after depreciation and deducting the tax and then add the deprecation. It gives the cash inflow.

Exercise 8 From the following information you can learn after tax and depreciation concept. Calculate NPV.

Initial Outlay	**Rs. 1,00,000**
Estimated life	5 Years
Scrap Value	Rs. 10,000
Profit after tax :	
End of year 1	Rs. 6,000
2	Rs. 14,000
3	Rs. 24,000
4	16,000
5	Nil

Solution Depreciation has been calculated under straight line method. The cost of capital may be taken at 10%. P.a. is given below.

Year	1	2	3	4	5
PV factor @ 10%	0.909	0.826	0.751	0.683	0.621

$$\text{Depreciation} = \frac{\text{Initial cash outflow} - \text{scrap value}}{\text{Estimated Life of the project}}$$

$$= \frac{1,00,000 - 10,000}{5}$$

$$= \frac{90,000}{5} = \text{Rs.}18,000$$

Year	Profit after Tax	Depreciation	Prof. + Dep.= Cash Inflow
1	6,000	18,000	24,000
2	14,000	18,000	32,000
3	24,000	18,000	42,000
4	16,000	18,000	34,000
5	Nil	18,000	18,000

Net Present Value

Year	Cash Inflow	Discount factor @ 10%	CI * DF=Present value (Rs.)
1	24,000	0.909	21,816
2	32,000	0.826	26,432
3	42,000	0.751	31,542
4	34,000	0.683	23,222
5	18,000	0.621	11,178

Total present value of cash inflows	1,14,190
Less : Initial cash investment	1,00,000
Net present value	14,190

Exercise 9

A company has to select one of the following two projects:

	Project A	Project B
Cost	Rs.22,000	20,000
Cash inflows:		
Year 1	12,000	2,000
Year 2	4,000	2,000
Year 3	2,000	4,000
Year 4	10,000	20,000

Using the Internal Rate of Return method suggest which is Preferable.

Solution

$$F = \frac{\text{Cash outlay}}{\text{Cash inflow}}$$

Project A

$$\text{Cash Inflow} = \frac{\text{Total cash inflow}}{\text{No. of years}}$$

$$= \frac{28,000}{4} = 7000$$

$$= \frac{22000}{7000} = 3.14$$

The factor thus calculated will be located in table II below. This would give the estimated rate of return to be applied discounting the cash for the internal rate of returns. In this of project A the rate comes to 10% while in case of project B it comes to15%.

Project A

Year	Cash Inflows Rs.	Discounting Factor at 10%	Present Value Rs.
1	12000	0.909	10908
2	4000	0.826	3304
3	2000	0.751	1502
4	10000	0.683	6830
			22544
Less: Initial Investment.			22000
Net Present Value			544

The present value at 10% comes to Rs. 22,544. The initial investment is Rs. 22,000. Interest rate of return may be taken approximately at 10%.

In the case more exactness is required another trial which is slightly higher than 10%(since at this rate the present value is more than initial investment) may be taken. Taking a rate of 12% the following results would emerge.

Year	Cash Inflows Rs.	Discounting Factor at 12.6%	Present Value Rs.
1	12,000	0.893	10,716
2	4,000	0.794	3,188
3	2,000	0.712	1,424
4	10,000	0.636	6,380
			21,688
Less:	Initial Investment Value		22,000
	Net Present Value		(–)312

$$\text{IRR} = \text{Base factor} + \frac{\text{Positive net present value}}{\text{Difference in positive and Negative net present value}} \times \text{DP}$$

Base factor = 10%

DP = 2%

$$= 10\% + \frac{544}{544 - (-312)} \times 2\%$$

$$= 10\% + \frac{544}{856} \times 2$$

$$= 10 + 1.27$$

$$= 11.27\%$$

Project B

Year	Cash Inflows Rs.	Discount Factor at 15%	Present value Rs.
1	2,000	0.909#	1,818
2	2,000	0.826	1,652
3	4,000	0.751	3,004
4	20,000	0.683	13,660
		Total present value	20,134
Less:		Initial investment	20,000
		Net present value	134

$$\text{IRR} = 10\% \frac{134}{134 - (2676)} \times 5\%$$

$= 10\% + 0.24\%$ IRR $= 10.24\%$

Thus, internal rate of return in project 'A' is higher as compared to project 'B'. Therefore project 'A' is preferable.

Exercise 10

A project costs Rs. 16,000 and is expected to generate cash inflows of Rs. 4,000 each 5 years. Calculate the Interest Rate of Return.

Solution

$$F = \frac{16{,}000}{4{,}000} = 4$$

Facts may lays between 6% to 8%

4.221 for 6% 3.993

for 8%

4000 × 4.21	=	16,840
4000 × 3.99	=	15,960
6% present value		16,840
Less: Investment		16,000
Net present value		840

8% present value	15,960
Less: Investment	16,000
	−40

$$IRR = 6\% + \frac{840}{840 - (-40)} \times 2\%$$

$$= 6\% + 1.91\%$$

$$= 7.91\%.$$

UNIT- 5

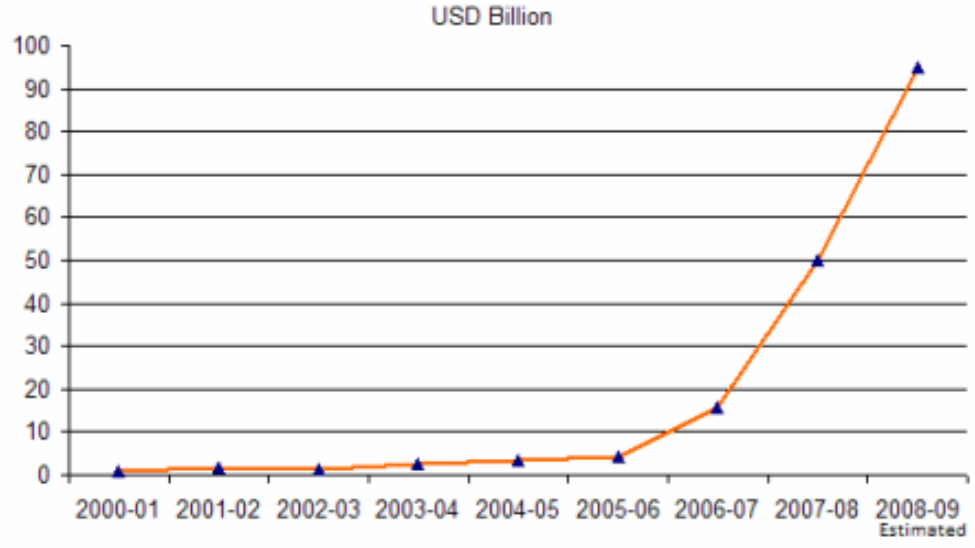
MERGERS AND ACQUISITIONS

INTRODUCTION

In the fast changing business world, companies have to strive hard to achieve quality and excellence in their fields of operation. Every company has the prime objective to grow profitably. The profitable growth for the companies can be possible internally as well as externally. The internal growth can be achieved either through the process of introducing or developing new products or by expanding or by enlarging the capacity of existing products or sustained improvement in sales. External growth can be achieved by merger and acquisition of existing business firms. Mergers and Acquisitions (M&A) are quite important forms of external growth. In today's globalized economy, mergers and acquisitions are being increasingly used the world over as a strategy for achieving a larger asset base, for entering new markets, generating greater market shares/additional manufacturing capacities, and gaining complementary strengths and competencies, to become more competitive in the marketplace. Mergers and Acquisitions (M&A) are an extensive worldwide phenomenon and Mergers and Acquisitions (M&A) have emerged as the natural process of business restructuring throughout the world. The last two decades have witnessed extensive mergers and acquisitions as a strategic means for achieving sustainable competitive advantage in the corporate world. Mergers and Acquisitions (M&A) have become the major force in the changing environment. The policy of liberalization, decontrol and globalization of the economy has exposed the corporate sector to domestic and global competition. Mergers and Acquisitions (M&A) have also emerged as one of the most effective methods of corporate structuring, and have therefore, become an integral part of the long-term business strategy of corporate sector all over the world. Almost 85 percent of Indian companies are using M&A as a core growth strategy. All our daily newspapers are filled with cases of mergers, acquisitions, spin-offs, tender offers, and other forms of corporate restructuring. Thus important issues both for business decision and public policy formulation have been raised. No company is regarded safe from takeover possibility. On the more positive side Mergers and Acquisitions may be critical for the healthy expansion and growth of the company. Successful entry into new product and geographical markets may require Mergers and

Acquisitions (M&A) at some stage in the company's development. Successful competition in international markets may depend on capabilities obtained in a timely and efficient fashion through Mergers and Acquisitions (M&A). Many have argued that mergers increase value and efficiency and move resources to their highest and best uses, thereby increasing shareholder value. To opt for a merger is a complex affair, especially in terms of technicalities involved. Thus, Mergers and Acquisitions (M&A) for corporate sector are the strategic concepts to take it up carefully. Until up to a couple of years back, the news that Indian companies having acquired American-European entities was very rare. However, this scenario has taken a sudden U turn. Nowadays, news of Indian Companies acquiring foreign businesses is more common than other way round. Buoyant Indian Economy, extra cash with Indian corporate, Government policies and newly found dynamism in Indian businessmen have all contributed to this new merger and acquisition trend. Indian companies are now aggressively looking at North American and European markets to spread their wings and become the global players. The Indian IT and ITES companies already have a strong presence in foreign markets; however, other sectors are also now growing rapidly. The increasing engagement of the Indian companies in the world markets, and particularly in the US, is not only an indication of the maturity reached by Indian Industry but also the extent of their participation in the overall globalization process. If you calculate top 10 deals it account for nearly US $ 21,500 million. This is more than d4ouble the amount involved in US companies' merger and acquisition of Indian counterparts. Have a look at some of the highlights of Indian Mergers and Acquisitions scenario as it stands.

Graphical representations of Indian outbound deals since 2000



HISTORY OF MERGERS AND ACQUISITIONS

The development of mergers & acquisitions (M&A) is not an invention of recent times. The first appearance of M&A in a high frequency evolved at the end of the 19th century. Since then, cyclic waves are observed with different waves emerging due to radical different strategic motivations. The following table draws out the timeline of M&A development and clarifies strategic motivations underlying each wave.

The activity in mergers and acquisitions in the past century shows a clustering pattern. The clustering pattern is characterized as a wave and they occur in burst interspersed with relative inactivity. When we discuss these merger waves, economics usually refer to 6 specific waves starting from 1890. The length and start of each wave is not specific, but the end of each wave usually falls with a major war or the beginning of a recession/crisis. Furthermore, the first and second wave was only relevant for the US market, while the other waves had more geographical dispersion. Especially in wave five, where besides US, UK and continental Europe, Asia also had

a significantly increased M&A market. A general conclusive theory about the M&A waves is not available yet, although there seems to be industry-specific factors that trigger the waves because different industries experience increased M&A activity at different times. The following table shows the summary of the Mergers and Acquisitions waves.

Summarized Mergers & Acquisitions Waves

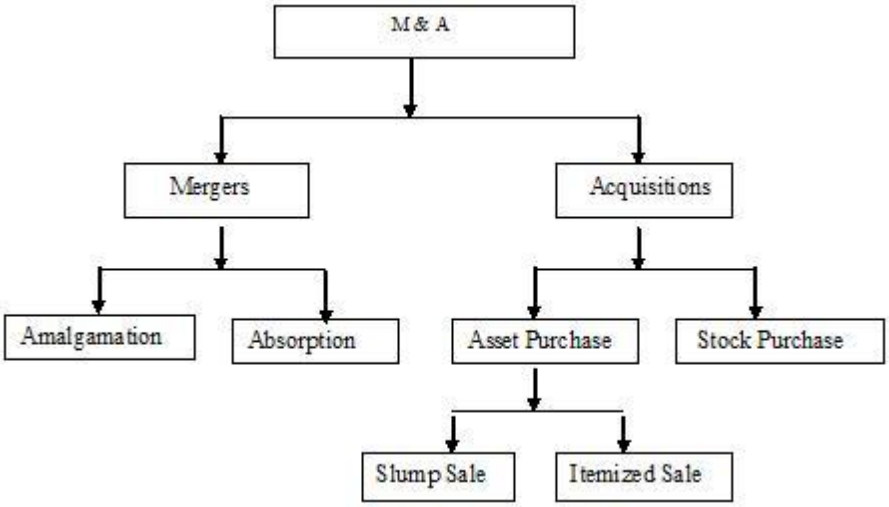
	Wave - 1	Wave - 2	Wave - 3	Wave - 4	Wave - 5
Period	1893-1904	1910s-1929	1955-1975	1984-1989	1993-2000
Predominant Means of Payments	Cash	Equity	Equity	Cash / Debt	Equity
M & A Outcomes	Creation of Monopolies	Creation of Oligopolies	Diversification/ Conglomerate Building	'Bust-Up' Takeover, LBO	Globalization
Predominant Nature of M&A	Friendly	Friendly	Friendly	Hostile	Friendly
Beginning of Wave	Economic Expansion, new laws on Incorporation, Technological Innovation.	Economic recovery, Better enforcement of antitrust law.	Strengthening law on Anti-competitive M&A's, Economic recovery after WW-II.	Deregulation of Financial Sector, Economic Recovery.	Strong Economic Growth, Deregulation and Privatization
End of Wave	Stock Market Crash, WW-I	The Great Depression	Market Crash due to an oil crises	Stock Market Crash,	Burst of the Internet Bubbles, 9/11 Terrorist Attack

CONCEPTS AND DEFINITIONS OF MERGERS AND ACQUISITIONS

Mergers and Acquisitions s are taking place all over the world irrespective of the industry, and therefore, it is necessary to understand the basic concepts pertinent to this activity.

The given below (Figure) is the clear presentation of the notion of M&A.

KINDS OF M&A



WHAT IS MERGER ?

Merger is said to occur when two or more companies combine into one company. Merger is defined as a 'transaction involving two or more companies in the exchange of securities and only one company survives'.

When the shareholders of more than one company, usually two, decide to pool resources of the companies under a common entity it is called **'merger'**.

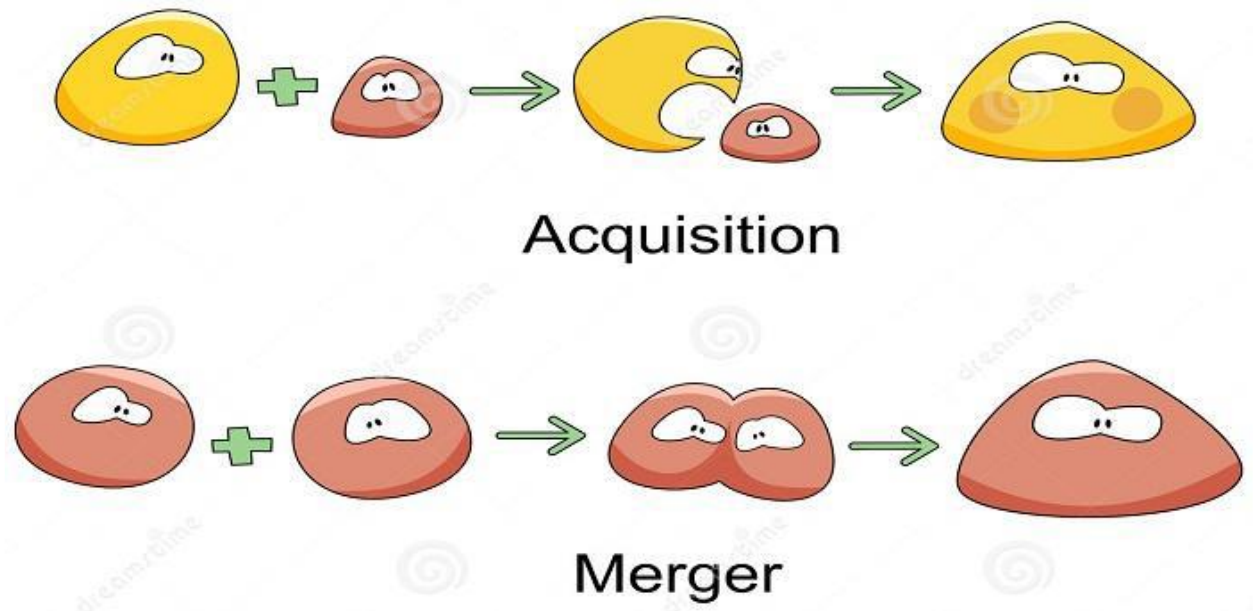
If as a result of a merger, a new company comes into existence it is called as **'amalgamation'**. The merger of Bank of Punjab and Centurion Bank resulting in formation of Centurion Bank of Punjab; or merger of Indian Rayon Ltd, Indo Gulf Fertilizers Limited (IGFL) and Birla Global Finance Limited (BGFL) to form a new entity called Aditya Birla Nuvo is an example of amalgamation.

As a result of a merger, one company survives and others lose their independent entity, it is called **'absorption'**. The merger of Global Trust Bank Limited (GTB) with Oriental Bank of

Commerce (OBC) is an example of absorption. After the merger, the identity of GTB is lost. But the OBC retains its identity.

Mergers is the combination of two companies to form one. A merger is a combination of two or more companies where one corporation is completely absorbed by another corporation.

CONCEPTS OF MERGERS AND ACQUISITION



WHAT IS ACQUISITION?

Acquisition is an act of acquiring effective control by a company over the assets (purchase of assets either by lump sum consideration or by item-wise consideration) or management (purchase of stocks/shares or gaining control over Board) of another company without combining their businesses physically. Generally a company acquires effective control over the target company by acquiring majority shares of that company. However, effective control may be exercised with a less than majority shareholding, usually ranging between 10 percent and 40 percent because the remaining shareholders, scattered and ill organized, are not likely to

challenge the control of the acquirer. **Takeover** is considered as a form of acquisition. Takeover is a business strategy of acquiring control over the management of target company either directly or indirectly.

Acquisitions is one company taken over by the other. Acquisition essentially means 'to acquire' or 'to takeover'. Here a bigger company will take over the shares and assets of the smaller company.

REASONS FOR MERGERS AND ACQUISITIONS:

- Financial synergy for lower cost of capital
- Improving company's performance and accelerate growth
- Economies of scale
- Diversification for higher growth products or markets
- To increase market share and positioning and to give broader access to market
- Strategic re-alignment and technological change
- Tax considerations
- Under valued target
- Diversification of risk

STAGES OR PROCESS INVOLVED IN ANY M&A

Phase 1: Pre-acquisition review

Phase 2: Search and screen targets

Phase 3: Investigate and valuation of the target

Phase 4: Acquire the target through negotiations

Phase 5:Post merger integration

Phase 1: Pre-acquisition review: this would include self assessment of the acquiring company with regards to the need for M&A, ascertain the valuation and chalk out the growth plan through the target.

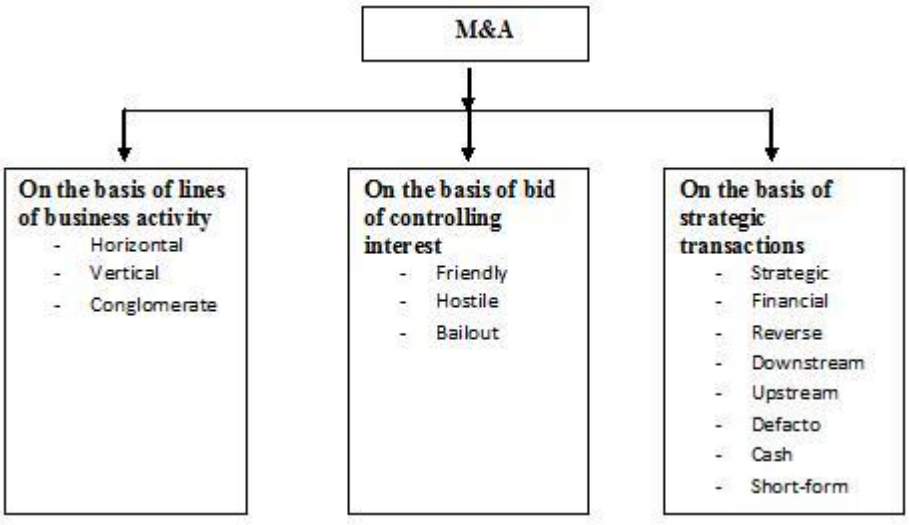
Phase 2: **Search and screen targets:** This would include searching for the possible apt takeover candidates. This process is mainly to scan for a good strategic fit for the acquiring company.

Phase 3: **Investigate and valuation of the target:** Once the appropriate company is shortlisted through primary screening, detailed analysis of the targeted company has to be done. This is also referred to as due diligence.

Phase 4: Acquire the target through negotiations: Once the targeted company is selected, the next step is to start negotiations to come to consensus for a negotiated merger or a bear hug (offer made by one co., to other to purchase shares at higher price). This brings both the companies to agree mutually to the deal for the long term working of the M&A.

Phase 5:Post merger integration: If all the above steps fall in place, there is a formal announcement of the agreement of merger by both the participating companies.

DIFFERENT TYPES OF MERGER AND ACQUISITION



When two or more companies dealing in similar lines of activity combine together then **horizontal M&A** takes place. The merger of Tata Oils Mills Company Ltd. (TOMCO) with Hindustan Lever Ltd. (HLL) is a horizontal merger.

A **vertical M&A** is one in which the company expands backwards by M&A with a company supplying raw materials or expands forward in the direction of the ultimate consumer. The vertical M&A will bring the companies of same industry together who are involved in different stages of production, process or operation. Vertical M&A may take the form of **forward or backward M&A.** The merger of Reliance Petrochemicals Limited (RPCL) with Reliance Industries Limited (RIL) is a vertical merger with backward linkage as far as RIL is concerned and the merger of Cement manufacturing company with civil construction company is also a vertical merger with forward linkage.

Market-extension merger involve two companies that sell the same products in different markets.

Product-extension merger involve two companies selling different but related products in the same market.

Conglomerate M&A involves the integration of companies entirely involved in a different set of activities, products or services. The merger of Mohta Steel Industries Limited with Vardhaman Spinning Mills Limited is a conglomerate M&A. When the management of acquiring and target companies mutually and willingly agrees for takeover, it is called **friendly M&A**. The acquisition of the controlling interest (45 percent shares) of Universal Luggage Mfg. Company Ltd. By Blow Plast Ltd. and Ranbaxy by Daiichi Sankyo are the examples of a friendly M&A.

When the acquisition is 'forced' or against the wish of the target management, it is called **hostile M&A**. Hostile M&A takes the form of **tender offer** wherein the offer to buy the shares by the acquiring company will be made directly to the target shareholders without the consent of the target management. The takeover of Shaw Wallace, Dunlop, Mather & Platt and Hindustan Dorr Oliver by Chhabrias and the takeover of Ashok Leyland by Hindujas are the examples of hostile M&A.

Bailout M&As are resorted to bailout the sick companies, to allow the company for rehabilitation as per the schemes approved by the financial institutions.

Strategic M&A involves operating synergies, i.e., two companies are more profitable combined than separate.

In **financial M&A**, the bidder usually believes that the price of the company's stock is less than the value of company's assets.

Reverse M&A is the merger of a large (financially sound/ profit-making) company with a small (financially weak/ loss-making) company.

Downstream M&A is the merger of a parent company with its own subsidiary.

Upstream M&A is the merger of a subsidiary company with its own parent company.

Defacto M&A has economic effect of merger as per legal provisions, but is entered in the form of acquisition of assets.

Cash M&A occurs when certain shareholders accept cash for their shares, while other shareholders receive shares in the surviving company.

Short-Term M&A takes place when a parent company acquires the total voting power in a subsidiary.

OTHER FORMS OF CORPORATE RESTRUCTURING

Amalgamation: Amalgamation is an arrangement where two or more companies consolidate their business to form a new firm, or become a subsidiary of any one of the company. For practical purposes, the terms amalgamation and merger are used interchangeably. However, there is a slight difference. Merger involves the fusion of two or more companies into a single company where the identity of some of the companies gets dissolved. On the other hand, amalgamation involves dissolving the entities of amalgamating companies and forming a new company having a separate legal entity.

Normally, there are two types of amalgamations. The first one is similar to a merger where all the assets and liabilities, and shareholders of the amalgamating companies are combined together. The accounting treatment is done using the pooling of interests method. It involves laying down a standard accounting policy for all the companies and then adding their relevant accounting figures like capital reserve, machinery, etc. to arrive at revised figures.

The second type of amalgamation involves acquisition of one company by another company. In this, the shareholders of the acquired company may not have the same equity rights as earlier, or the business of the acquired company may be discontinued. This is like a purchase of a business.

The accounting treatment is done using a purchase method. It involves recording assets and liabilities at their existing values or revaluating them on the basis of their fair values at the time of amalgamation.

Consolidation: In a consolidation, an entirely new firm is created, and the two previous entities cease to exist. Consolidated financial statements are prepared under the assumption that two or more corporate entities are in actuality only one. The consolidated statements are prepared by combining the account balances of the individual firms after certain adjusting and eliminating entries are made.

Joint Venture: Two or more businesses joining together under a contractual agreement to conduct a specific business enterprise with both parties sharing profits and losses. The venture is for one specific project only, rather than for a continuing business relationship as in a strategic alliance.

Strategic Alliance: A partnership with another business in which you combine efforts in a business effort involving anything from getting a better price for goods by buying in bulk together to seeking business together with each of you providing part of the product. The basic idea behind alliances is to minimize risk while maximizing your leverage.

Partnership: A business in which two or more individuals who carry on a continuing business for profit as co-owners. Legally, a partnership is regarded as a group of individuals rather than as a single entity, although each of the partners file their share of the profits on their individual tax returns.

SIGNIFICANCE OF MERGERS AND ACQUISITIONS

A survey among Indian corporate managers in 2006 by Grant Thornton found that Mergers and Acquisitions (M&A) are a significant form of business strategy today for Indian Corporate. The main objects, in particular, behind any M&A transaction are shown below.

OBJECTIVES OF MERGERS AND ACQUSITIONS

However, in general the objects of the M&A can be explained as follows:

Focus on core strength, operational synergy and efficient allocation of managerial capabilities and infrastructure.

I. Financial Objectives

- **Economy of scale:** This refers to the fact that the combined company can often reduce its fixed costs by removing duplicate departments or operations, lowering the costs of the company relative to the same revenue stream, thus increasing
- profit margins.
- **Economy of scope:** This refers to the efficiencies primarily associated with demand-side changes, such as increasing or decreasing the scope of marketing and distribution, of different types of products.
- **Increased revenue or market share:** This assumes that the buyer will be absorbing a major competitor and thus increase its market power (by capturing increased market share) to set prices.
- **Cross-selling:** For example, a bank buying a stock broker could then sell its banking products to the stock broker's customers, while the broker can sign up the bank's customers for brokerage accounts. Or, a manufacturer can acquire and sell complementary products.
- **Synergy:** For example, managerial economies such as the increased opportunity of managerial specialization. Another example is purchasing economies due to increased order size and associated bulk-buying discounts.
- **Taxation:** A profitable company can buy a loss maker to use the target's loss as their advantage by reducing their tax liability. In the United States and many other countries, rules are in place to limit the ability of profitable companies to "shop" for loss making companies, limiting the tax motive of an acquiring company.
- **Geographical or other diversification:** This is designed to smooth the earnings results of a company, which over the long term smoothens the stock price of a company, giving conservative investors more confidence in investing in the company. However, this does not always deliver value to shareholders.

- **Resource transfer:** resources are unevenly distributed across firms (Barney, 1991) and the interaction of target and acquiring firm resources can create value through either overcoming information asymmetry or by combining scarce resources.
- **Vertical integration:** Vertical integration occurs when an upstream and downstream firm merges (or one acquires the other). There are several reasons for this to occur. One reason is to internalize an externality problem. A common example of such an externality is double marginalization. Double marginalization occurs when both the upstream and downstream firms have monopoly power and each firm reduces output from the competitive level to the monopoly level, creating two deadweight losses. Following a merger, the vertically integrated firm can collect one deadweight loss by setting the downstream firm's output to the competitive level. This increases profits and consumer surplus. A merger that creates a vertically integrated firm can be profitable.
- **Hiring:** some companies use acquisitions as an alternative to the normal hiring process. This is especially common when the target is a small private company or is in the startup phase. In this case, the acquiring company simply hires ("acquhires") the staff of the target private company, thereby acquiring its talent (if that is its main asset and appeal). The target private company simply dissolves and little legal issues are involved.
- **Absorption of similar businesses under single management:** similar portfolio invested by two different mutual funds namely united money market fund and united growth and income fund, caused the management to absorb united money market fund into united growth and income fund.
- **Access to hidden or nonperforming assets** (land, real estate).

II. Other Objectives

- **Diversification:** While this may hedge a company against a downturn in an individual industry it fails to deliver value, since it is possible for individual shareholders to achieve the same hedge by diversifying their portfolios at a much lower cost than those associated with a merger.
- **Manager's hubris:** manager's overconfidence about expected synergies from M&A which results in overpayment for the target company.
- **Empire-building:** Managers have larger companies to manage and hence more power.

- **Manager's compensation:** In the past, certain executive management teams had their payout based on the total amount of profit of the company, instead of the profit per share, which would give the team a perverse incentive to buy companies to increase the total profit while decreasing the profit per share (which hurts the owners of the company, the shareholders).
- **Customer satisfaction:** Sometimes companies suggest they are merging to better serve their customers.

MOTIVES FOR MERGERS AND ACQUISITIONS

Companies make mergers and acquisitions for a long list of reasons. Most of these reasons are good, in that the motivation for the transaction is to maximize shareholder value. Theoretically, companies should pursue a merger or an acquisition only if it creates value—that is, if the value of the acquirer and the target is greater if they operate as a single entity than as separate ones. Put another way, a merger or acquisition is justified if synergies are associated with the transaction. Synergies can take three forms: operating, financial, or managerial.

Operating Synergies or Strategic Motives arise from the combination of the acquirer and target's operations. A first type of operating synergies is revenue enhancement. It includes gaining pricing power in a particular market or being able to increase sales volume by accessing new markets— for example, by leveraging one company's sales force or distribution network, or by selling one company's products to the other company's customers. A second type of operating synergies is cost reduction. As mentioned earlier, many companies view M&As as a way to reach a critical size and, consequently, be able to benefit from economies of scale with lower production costs. An acquisition might also generate cost savings in advertising, marketing, or research and development. Revenue enhancement and cost reduction are more likely in cases of horizontal integration and can also play a role in vertical integration.

Financial Synergies or Motives come from lower financing costs. Big companies usually have access to a wider and cheaper pool of funds than small companies. One rationale for the third wave of M&As was that diversifying into unrelated businesses enabled companies to reduce risk

and, therefore, increase their debt capacity and lower their be fore tax cost of financing. The risk reduction benefit is compounded by the beneficial tax treatment of debt relative to equity. Thus, the more debt a company has in its capital structure, the lower its cost of financing, net of taxes. 4 History has shown, however, that companies tend to overestimate the risk reduction and tax benefits associated with M&As. Although financial synergies are a source of value, particularly in the case of leveraged transactions such as LBOs, they should not be the only motivation for a merger or acquisition.

Managerial Synergies or Organizational Motives arise when a high-performing management team replaces a poor-performing one. One advantage of acquisitions is that they give the acquirer the opportunity to remove incompetent managers, which could improve the target's performance. Unfortunately, not all M&As are motivated by the goal of creating shareholder value. Research has shown that some managers look after their own self-interest instead of shareholders'. They might use M&As to build empires and diversify their human capital, even if little or no value is associated with the merger or the acquisition. Managers also sometimes suffer from hubris; they are overconfident in their ability to negotiate a good deal for their shareholders and then run the combined entity. Thus, they tend to overpay for their acquisitions. Last, some managers go through an acquisition spree to deliver growth and earnings targets, even if the acquisitions are not strategically sound or have a negative effect on the company's profitability and ability to create shareholder value.

MOTIVES OF MERGERS AND ACQUISITIONS

1. Strategic Motives	2. Financial Motives	3. Organizational Motives
• Growth • Scale of Operations • Competition • Market Share • Acquiring Size • Backward Integration • Forward Integration • Synergy • Core Competence • Diversification • Reduction of Risk • Balancing Product Cycle • Mgt of Recession • Entry into New Markets/New Segment	• Investment of Surplus Funds • Higher Market Capitalization • Reducing Costs • Tax Planning/Tax Benefits • Revival of Sick Units • Increasing EPS • Creation of Shareholder Value	• Entrepreneur's Personal Compulsions • Retention of Management Talents • Removal of Inefficient Management • Quality of Management • Lobby Power • Emergence as an MNC • Emergence as a Conglomerate

ADVANTAGES OF MERGERS AND ACQUISITIONS

- The most common reason for firms to enter into merger and acquisition is to merge their power and control over the markets.
- Another advantage is Synergy that is the magic power that allow for increased value efficiencies of the new entity and it takes the shape of returns enrichment and cost savings.
- Economies of scale is formed by sharing the resources and services Union of 2 firm's leads. overall cost reduction giving a competitive advantage, that is feasible as a result of raised buying power and longer production runs.
- Decrease of risk using innovative techniques of managing financial risk.

- To become competitive, firms have to be compelled to be peak of technological developments and their dealing applications. By M&A of a small business with unique technologies, a large company will retain or grow a competitive edge.
- The biggest advantage is tax benefits. Financial advantages might instigate mergers and corporations will fully build use of tax- shields, increase monetary leverage and utilize alternative tax benefits (Hayn, 1989).

DISADVANTAGES OF MERGERS AND ACQUISITION

The advantage and disadvantages of merger and acquisition are depending of the new companies short term and long term strategies and efforts. That is because of the factors likes' market environment, Variations in business culture, acquirement costs and changes to financial power surrounding the business captured. So following are the some disadvantages or limitations of merger and acquisition (M&A).

- Loss of experienced workers aside from workers in leadership positions. This kind of loss inevitably involves loss of business understand and on the other hand that will be worrying to exchange or will exclusively get replaced at nice value.
- As a result of M&A, employees of the small merging firm may require exhaustive re-skilling.
- Company will face major difficulties thanks to frictions and internal competition that may occur among the staff of the united companies. There is conjointly risk of getting surplus employees in some departments.
- Merging two firms that are doing similar activities may mean duplication and over capability within the company that may need retrenchments.
- Increase in costs might result if the right management of modification and also the implementation of the merger and acquisition dealing are delayed.
- The uncertainty with respect to the approval of the merger by proper assurances.
- In many events, the return of the share of the company that caused buyouts of other company was less than the return of the sector as a whole.
- The merger and acquisition (M&A) reduces flexibility. If a rival makes revolution and may currently market vital resources those are of superior quality, shift is tough. The

change expense is majorly the distinction between the particular merger worth and also the merchandising value of the firm that can be of larger distinction.

DIFFERENCES BETWEEN MERGERS AND ACQUISITIONS

Although merger and acquisition are often used as synonymous terms, there is a subtle difference between the two concepts. In the case of a merger, two firms together form a new company. After the merger, the separately owned companies become jointly owned and obtain a new single identity. When two firms merge, stocks of both are surrendered and new stocks in the name of new company are issued. Generally, mergers take place between two companies of more or less same size. In these cases, the process is called Merger of Equals.

However, with acquisition, one firm takes over another and establishes its power as the single owner. Generally, the firm which takes over is the bigger and stronger one. The relatively less powerful, smaller firm loses its existence, and the firm taking over, runs the whole business with its own identity. Unlike the merger, stocks of the acquired firm are not surrendered, but bought by the public prior to the acquisition, and continue to be traded in the stock market. Another difference is, when a deal is made between two companies in friendly terms, it is typically proclaimed as a merger, regardless of whether it is a buyout. In an unfriendly deal, where the stronger firm swallows the target firm, even when the target company is not willing to be purchased, then the process is labeled as acquisition. Often mergers and acquisitions become synonymous, because, in many cases, a bigger firm may buy out a relatively less powerful one and compel it to announce the process as a merger. Although, in reality an acquisition takes place, the firms declare it as a merger to avoid any negative impression.

DIFFERENCE BETWEEN MERGER AND ACQUISITION

MERGER	ACQUISITION
1.Merging of two organization in to one	1. Buying one organization by another.
2. Merger is expensive than acquisition (higher legal cost).	2. . It can be friendly takeover or hostile takeover
3. It is the mutual decision	3. Acquisition is less expensive than merger.
4. Through merger shareholders can increase their net worth.	4. Buyers cannot raise their Enough capital
5. It is time consuming and the company has to maintain so much legal issues	5. It is faster and easier transaction.
6. Dilution of ownership occurs in merger	6. The acquirer does not experience the dilution of ownership.

WHY IS IMPORTANT ?

i. Increase Market Share.
ii. Economies of Scale
iii. Profit for Research and development
iv. Benefits on account of tax shields like carried forward losses or unclaimed depreciation.

v. Reduction of competition.

PROCESS OF MERGERS & ACQUISITIONS

Merger and acquisition process is the most challenging and most critical one when it comes to corporate restructuring. One wrong decision or one wrong move can actually reverse the effects in an unimaginable manner. It should certainly be followed in a way that a company can gain maximum benefits with the deal. Following are some of the important steps in the M&A process:

- **Business Valuation**

  Business valuation or assessment is the first process of merger and acquisition. This step includes examination and evaluation of both the present and future market value of the target company. A thorough research is done on the history of the company with regards to capital gains, organizational structure, market share, distribution channel, corporate culture, specific business strengths, and credibility in the market. There are many other aspects that should be considered to ensure if a proposed company is right or not for a successful merger.

- **Proposal Phase**

  Proposal phase is a phase in which the company sends a proposal for a merger or an acquisition with complete details of the deal including the strategies, amount, and the commitments. Most of the time, this proposal is send through a non-binding offer document.

- **Planning Exit**

  When any company decides to sell its operations, it has to undergo the stage of exit planning. The company has to take firm decision as to when and how to make the exit in an organized and profitable manner. In the process the management has to evaluate all financial and other business issues like taking a decision of full sale or partial sale along with evaluating on various options of reinvestments.

- **Structuring Business Deal**

  After finalizing the merger and the exit plans, the new entity or the take over company has to take initiatives for marketing and create innovative strategies to enhance business and its credibility. The entire phase emphasize on structuring of the business deal.

- **Stage of Integration**

  This stage includes both the company coming together with their own parameters. It includes the entire process of preparing the document, signing the agreement, and negotiating the deal. It also defines the parameters of the future relationship between the two.

- **Operating the Venture**

  After signing the agreement and entering into the venture, it is equally important to operate the venture. This operation is attributed to meet the said and predefined expectations of all the companies involved in the process. The M&A transaction after the deal include all the essential measures and activities that work to fulfill the requirements and desires of the companies involved.

STRATEGIES FOR MERGERS AND ACQUISITIONS

Merger and Acquisition Strategies are extremely important in order to derive the maximum benefit out of a merger or acquisition deal. A sound strategic planning can protect any merger from failure. Through market survey and market analysis of different mergers and acquisitions, it has been found out that there are some golden rules which can be treated as the Strategies for Successful Merger or Acquisition Deal.

- Before entering in to any merger or acquisition deal, the target company's market performance and market position is required to be examined thoroughly so that the optimal target company can be chosen and the deal can be finalized at a right price.

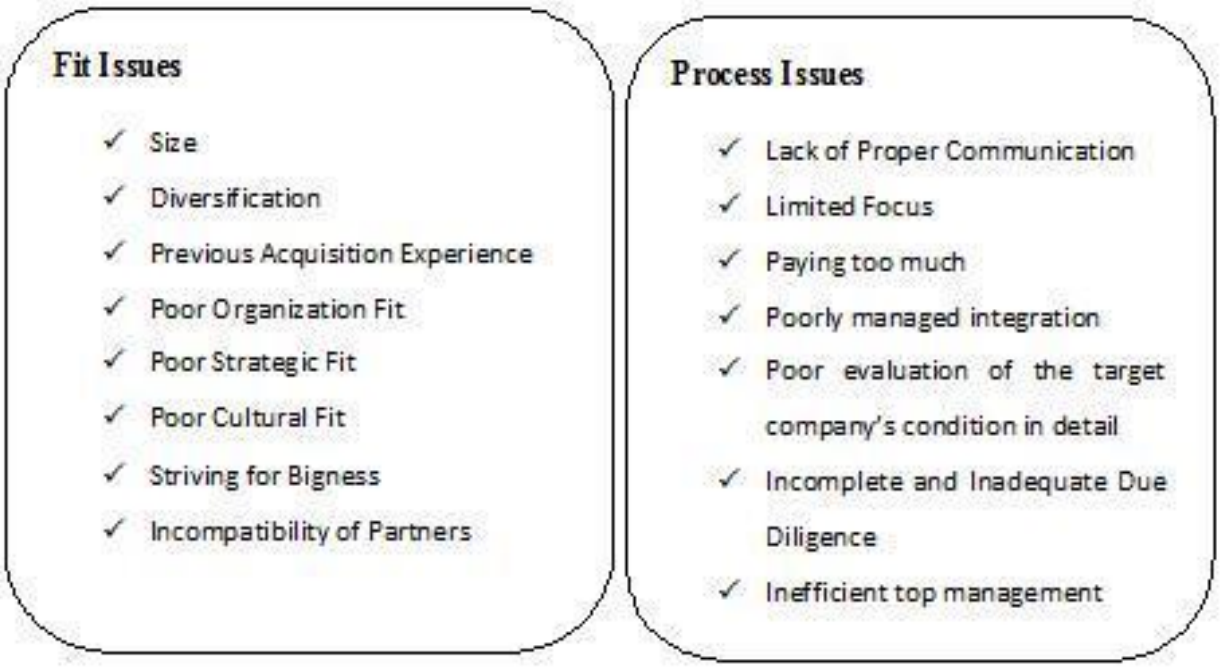
- Identification of future market opportunities, recent market trends and customer's reaction to the company's products are also very important in order to assess the growth potential of the company.
- After finalizing the merger or acquisition deal, the integration process of the companies should be started in time. Before the closing of the deal, when the negotiation process is on, from that time, the management of both the companies requires to work on a proper integration strategy. This is to ensure that no potential problem crop up after the closing of the deal. If the company which intends to acquire the target company plans restructuring of the target company, then this plan should be declared and implemented within the period of acquisition to avoid uncertainties.
- It is also very important to consider the working environment and culture of the workforce of the target company, at the time of drawing up Merger and Acquisition Strategies, so that the employees of the target company do not feel left out and become demoralized. Strive to keep the employees informed, encourage feedback, be honest about what's ahead, and make sure people stay focused by ensuring the best possible start for the newly expanded company.

SUCCESS OR FAILURE OF MERGERS AND ACQUISITIONS

The large volume of local and international research studies available regarding the issue of merger failure and success, despite varying research objectives and methodologies, are consistent in their findings that large numbers of Merger and Acquisition transactions fail to reach potential. However, any specific elements of the merger and acquisition process have yet to be identified as the critical success or failure factor impacting on the performance of a transaction. It is more likely that a range of issues and elements are responsible for M&A failure.

There are basically two broad issues responsible for success or failure of M&A transactions. These two issues are ‘Fit’ issues and ‘Process’ issues. ‘Fit’ issues are those which assess the position of the acquirer and the target. The acquirer has limited ability to influence the fit issues; however there are some factors over which control can be asserted. ‘Process’ issues are those over which the acquirer can exert a large degree of control.

Fit Issues and Process Issues



WHY MERGER FAILS?

The main reasons for mergers failure are "autonomy, self-interest, culture clash" all included or lies in leadership. At both implementation and negotiation stages, mergers fail due to failure of leadership. Lack of leadership qualities of managers may cause mergers and acquisitions a failure. Leadership is, thus a crucial management task in strategic restructuring. The following are the reasons for failure of mergers:

- Mergers fail in providing economies of scale.
- Un-utilization or minimum utilization of staff and working hours.
- The inability to appeal country-wide and regionally to refunders.
- Personal desires
- Desire towards authority but not to responsibility.
- Desire towards to control and commanding/directing the subordinates.
    - The people, who are having the negative views on mergers.
    - The negative believes of the partners and the people in the society.
    - Inefficient and inactive person of a leader or director in merged firm.

- The inability of preparing national policy issues, which are interested by the members in the merged firm.
- The inability of the leader in bridging the cultures within the merged organization.
- Lack of leadership qualities of merged organizations' directors and partners.

In addition to the above, many mergers fail, which may be broadly classified into the following "seven sins", which seem to be committed too often by those making acquisitions:

- Paying too much.
- Assuming a boom market won't crash.
- Leaping before looking.
- Straying too far afield.
- Swallowing something too big.
- Marrying disparate corporate cultures.
- Counting on key managers staying.

IMPACT OF MERGERS AND ACQUISITIONS

Just as mergers and acquisitions may be fruitful in some cases, the impact of mergers and acquisitions on various sects of the company may differ. In the article below, details of how the shareholders, employees and the management people are affected has been briefed. Mergers and acquisitions are aimed at improving profits and productivity of a company. Simultaneously, the objective is also to reduce expenses of the firm.

However, mergers and acquisitions are not always successful. At times, the main goal for which the process has taken place loses focus. The success of mergers, acquisitions or takeovers is determined by a number of factors. Those mergers andacquisitions, which are resisted not only affects the entire work force in that organization but also harm the credibility of the company. In the process, in addition to deviating from the actual aim, psychological impacts are also many. Studies have suggested that mergers and acquisitions affect the senior executives, labor force and the shareholders.

- **Impact of Mergers and Acquisitions on workers or employees:**

  Aftermath of mergers and acquisitions impact the employees or the workers the most. It is a well known fact that whenever there is a merger or an acquisition, there are bound to be layoffs. In the event when a new resulting company is efficient business wise, it would require less number of people to perform the same task. Under such circumstances, the company would attempt to downsize the labor force. If the employees who have been laid off possess sufficient skills, they may in fact benefit from the lay off and move on for greener pastures. But it is usually seen that the employees those who are laid off would not have played a significant role under the new organizational set up.

  This accounts for their removal from the new organization set up. These workers in turn would look for re employment and may have to be satisfied with a much lesser pay package than the previous one. Even though this may not lead to drastic unemployment levels, nevertheless, the workers will have to compromise for the same. If not drastically, the mild undulations created in the local economy cannot be ignored fully.

- **Impact of mergers and acquisitions on top level management**

  Impact of mergers and acquisitions on top level management may actually involve a "clash of the egos". There might be variations in the cultures of the two organizations. Under the new set up the manager may be asked to implement such policies or strategies, which may not be quite approved by him. When such a situation arises, the main focus of the organization gets diverted and executives become busy either settling matters among themselves or moving on. If however, the manager is well equipped with a degree or has sufficient qualification, the migration to another company may not be troublesome at all.

- **Impact of mergers and acquisitions on shareholders**

  We can further categorize the shareholders into two parts:

- **Shareholders of the acquired firm**

  The shareholders of the acquired company benefit the most. The reason being, it is seen in majority of the cases that the acquiring company usually pays a little excess than it what should. Unless a man lives in a house he has recently bought, he will not be able to know its drawbacks. So that the shareholders forgo their shares, the company has to offer

an amount more than the actual price, which is prevailing in the market. Buying a company at a higher price can actually prove to be beneficial for the local economy.

- **Shareholders of the acquiring firm**

  They are most affected. If we measure the benefits enjoyed by the shareholders of the acquired company in degrees, the degree to which they were benefited, by the same degree, these shareholders are harmed. This can be attributed to debt load, which accompanies an acquisition.

IMPORTANT TERMS RELATING TO MERGERS AND ACQUISITIONS

Important terms relating to mergers and acquisitions are vital to the understanding of the entire process of mergers and acquisitions. Every word encountered in the process of mergers and acquisitions need to be carefully understood for a sound understanding of the subject. There are many important terms relating to mergers and acquisitions. These terms may appear to be completely unrelated to mergers and acquisitions but nevertheless, these terms may indicate a very important process in mergers and acquisitions. Some of the important terms relating to mergers and acquisitions are as follows:

- **People pill**

  Under some circumstances of hostile takeover, the people pill is used to prevent the takeover. The entire management team gives a threat to put in their papers if the takeover takes place. Using this strategy will work out provided the management team is very efficient and can take the company to new heights. On the other hand, if the management team is not efficient, it would not matter to the acquiring company if the existing management team resigns. So, the success of this strategy is quite questionable.

- **Sandbag**

  Sandbag is referred to as the process by which the target firm tends to defer the takeover or the acquisition with the hope that another company, with better offers may takeover instead. In other words, it is the process by which the target company "kills time" while waiting for a more eligible company to initiate the takeover.

- **Shark Repellent**

There are instances when a target company, which is being aimed at for a takeover resists the same. The target firm may do so by adopting different means. Some of the ways include manipulating shares as well as stocks and their values. All these attempts of the target firm resisting its acquisition or takeover are known as shark repellent.

- **Golden parachute**

  Is yet another method of preventing a takeover. This is usually done by extending benefits to the top level executives lest they lose their portfolio/jobs if the takeover is affected. The benefits extended are quite lucrative.

- **Raider**

  May be referred to an acquiring company, which is always on the look out for firms with undervalued assets. If the company finds that a company (target) does exists whose assets are undervalued, it buys majority of the shares from that target company so that it can exercise control over the assets of the target firm.

- **Saturday Night Special**

  Saturday Night Special is referred to as an action of the corporate companies, whereby one company makes an attempt to takeover another company all of a sudden by executing a public tender offer. The name is derived from the fact that such attempts were made towards the weekends. However, such practices have been stopped as per Williams Act. It has now been obligatory that if a company acquires more than 5% of stocks from another company, this has to be reported to the SEC or the Securities Exchange Commission.

- **Macaroni defense**

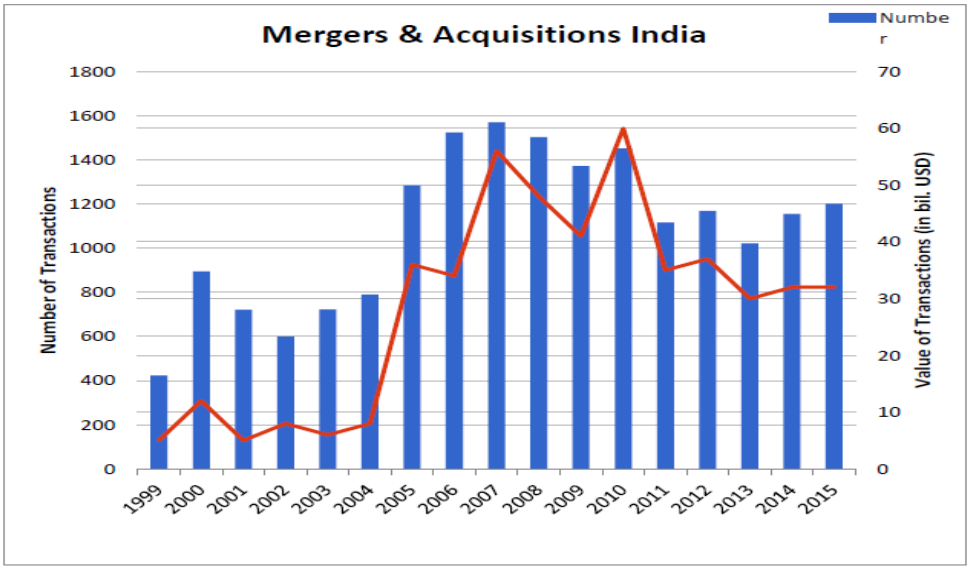
  This is referred to the policy wherein a large number of bonds are issued. At the same time the target company also assures people that the return on investment for these bonds will be higher with the takeover has taken place. This is another strategy embraced by the target firm for not succumbing to the pressures of the acquiring company.

MERGERS AND ACQUISITIONS IN INDIA

India in recent past has seen great potential in case of Merger and Acquisition (M&A) deals. It is being played vigorously in many industrial sectors of the economy. Many Indian companies have been growing the inorganic way to gain access to new markets and many foreign

companies are targeting Indian companies for their growth and expansion. It has been spreading far and wide through various verticals on all business platforms. The volume of M&A deals has been trending upwards particularly in the fields of pharmaceuticals, FMCG, finance, telecom, automotive and metals. Various factors which lead to this robust growth of mergers and acquisitions in India were liberalization, favorable government policies, economic reforms, need for investment, and dynamic attitude of Indian corporations. Almost all sectors have been opened up for the foreign investors in different degrees which has attracted this market and enabled industries to grow. The post-world war period was regarded as an era of M&As. Large number of M&A's occurred in industries like jute, cotton textiles, sugar, banking & insurance, electricity and tea plantation. However after independence, during the initial years, very few corporations came together and when they did it was a friendly negotiated deal. The reason behind less number of companied involved in mergers and acquisitions were due to the provisions of MRTP act, 1969 wherein such a firm had to follow a pressurized procedure to get approval for the same which acted as a deterrent. Although this doesn't mean that mergers and acquisitions in India were uncommon during this controlled system. In fact there were cases where the government encouraged mergers to revive the sick units. Additionally the creation of Life Insurance Corporation (LIC) and nationalization of life insurance business resulted in takeover of 243 insurance companies in the year 1956.

Merger and Acquisitions in India



The concept of mergers and acquisitions in India was not very popular until the year 1988. This year saw an unfriendly takeover by Swaraj Paul to overtake DCM ltd. which later had turned out to be ineffective. After the economic reforms that took place in the 1991, there were huge challenges in front of Indian industries both nationally as well as internationally. The intense competition compelled the Indian companies to opt for M&A's which later on became a vital option for them to expand horizontally and vertically. Indian corporate enterprises started refocusing in the lines of core competence, market share, global competitiveness and consolidation.

The early nineties saw M&A transactions led by Indian IT and pharmaceutical firms primarily to place themselves near to their major clients in other developed economies and also break into new markets for expansion. In this backdrop, Indian corporate enterprises undertook restructuring exercises primarily through M&A's to create a formidable presence and expand in their core areas of interest. Since then there has been no looking back and India is being considered one of the top countries entering merger and acquisitions. However, the complications involved in the acquisition process has also increased caused by evolving legal frameworks, funding concerns and competition norms which pose a constraint for the deal to be successful.

PROCESS OF MERGER AND ACQUISITION IN INDIA

The process of merger and acquisition has the following steps:

- Approval of Board of Directors
- Information to the stock exchange
- Application in the High Court
- Shareholders and Creditors meetings
- Sanction by the High Court
- Filing of the court order
- Transfer of assets or liabilities

- Payment by cash and securities

  Maximum Waiting period - 210 days from the filing of notice (or the order of the commission - whichever earlier).

PROBLEM WITH MERGER

- Clash of corporate cultures
- Increased business complexity
- Employees may be resistant to change

PROBLEMS OF MERGER AND ACQUISITION

1. Integration of difficulties
2. Large or extraordinary debt
3. Managers overly focused on acquisitions
4. Overly Diversified

WHY MERGER AND ACQUISITION FAIL ?

a. Cultural Difference
b. Lowed Intention
c. No guiding principles
d. No detailed investigating
e. Poor stake holder out-reach
f. No ground rules
g. Increased Domestic and International Competition.
h. Weak management and organization structure.
i. More attention to non-core issues
j. Bloated workforce
k. Unproductive work practices
l. Political impediments to shedding staff

HOW TO PREVENT THE FAILURE?

- **Continuous communication** – employees, stakeholders, customers, suppliers and government leaders.
- **Transparency-** in managers operations.
- **Capacity to meet new culture -** higher management professionals must be ready to greet a new or modified culture.
- **Talent management -** by the management.

CONCLUSION

The last two decades have witnessed extensive mergers and acquisitions as a strategic means for achieving sustainable competitive advantage in the corporate world. Mergers and Acquisitions (M&A) have become the major force in the changing environment. The policy of liberalization, decontrol and globalization of the economy has exposed the corporate sector to domestic and global competition. Mergers and Acquisitions (M&A) have also emerged as one of the most effective methods of corporate structuring, and have therefore, become an integral part of the long-term business strategy of corporate sector all over the world. Almost 85 percent of Indian companies are using M&A as a core growth strategy.

CASE STUDY - MERGER AND ACQUISITION

Tata Steel – Corus:$ 12.2 Billion

January 30,2007

Largest Indian take-over After the deal TATA'S became the 5th largest STEEL co.

100 % stake in CORUS

Paying Rs. 428/- per share

Image: B Mutharaman, Tata Steel MD; Ratan Tata, Tata chairman; JLeng, Corus chairman and P Varin, Corus CEO

RIL – RPL Merger :$ 1.68 b

Image: Reliance Industries' chairman MukeshAmbani.

March 2009

Merger deal amalgamation of its subsidiary Reliance Petroleum with the parent company Reliance industries ltd.

- Rs.500 crore
- RIL - RPL merger swap

  Ratio was at 16:1

Vodafone – Hutchison Essar :$ 11.1 Billion

Image: The then CEO of Vodafone Arun Sarin visits Hutchison Telecommunications head office in Mumbai.

TELECOM sector 11th February 2007, 2nd largest takeover deal 67 % stake holding in hutch .

ONGC – Imperial Energy :$ 2.8 Billion

Image: Imperial Oil, CEO Bruce March.

January 2009 - Acquisition deal Imperial energy aisa's biggest Chinese co.

ONGC paid 880 per share to the shareholders of imperial energy

ONGC wanted to tap the Siberian market.

Tata Motors – Jaguar Land Rover:$2.3 b

Image: AUnion flag flies behind a Jaguar car emblem outside a dealership in Manchester,England

March 2008 (just a year after acquiring Corus) Automobile sector

- ☐ Acquisition deal
- ☐ Gave tuff competition to M&M after signing the deal with ford

Hindalco – Novelis:$ 6Billion

Image: Kumar MangalamBirla (center), chairman of AdityaBirla Group

June2008

Aluminium and Copper sector

Hindalco Acquired Novelis

Hindalco entered the Fortune-500 listing of world's largest companies by sales revenues

HDFC Bank – Centurion Bank of Panjab : $ 2.4 b

Image: Rana Talwar (rear) Centurion Bank of Punjab chairman, Deepak Parekh, HDFCBankchairman.

- February, 2008
- Banking sector Acquisition deal CBoPshareholders got one share of HDFC Bank for every 29 shares held by them.

PROBLEMS ON MERGER AND ACQUISITION:

Problem 19.1

X Ltd. wants to take over Y Ltd. and the financial details of both are as follows :

	X Ltd.	Y Ltd.
Preference share capital	₹ 20,000	—
Equity share capital of ₹ 10 each	1,00,000	₹ 50,000
Share Premium	—	2,000
Profit and Loss A/c	38,000	4,000
10% Debentures	15,000	5,000
	1,73,000	61,000
Fixed assets	1,22,000	35,000
Current assets	51,000	26,000
	1,73,000	61,000
Profit after tax and preference dividend	24,000	15,000
Market price	24	27

What should be share exchange ratio to be offered to the shareholders of Y Ltd., based on (*i*) Net assets value, (*ii*) EPS, and (*iii*) Market price. Which should be preferred from the point of view of X Ltd.?

Solution :

(*i*) Share Exchange Ratio based on Net assets value :

	X Ltd.	Y Ltd.
Total assets	₹ 1,73,000	₹ 61,000
– Liabilities (Debentures)	15,000	5,000
– Preference share capital	20,000	—
Net worth	1,38,000	56,000
Number of equity shares	10,000	5,000
Worth per share	₹ 13.80	₹ 11.20

$$\text{Share Exchange ratio} = \frac{\text{Worth per share of Target firm}}{\text{Worth per share of Acquiring firm}}$$

$$\text{Share Exchange ratio} = \frac{₹\ 11.20}{₹\ 13.80} = .812$$

Number of shares to be issued $5{,}000 \times .812 = 4{,}060$

(*ii*) Share Exchange Ratio based on EPS :

	X Ltd.	Y Ltd.
Earnings	₹ 24,000	₹ 15,000
Number of shares	10,000	5,000
EPS	₹ 2.40	₹ 3.00

$$\text{Share Exchange ratio} = \frac{\text{EPS of Target firm}}{\text{EPS of Acquiring firm}}$$

$$\text{Share Exchange ratio} = \frac{₹\ 3.00}{₹\ 2.40} = 1.25$$

Number of shares to be issued $5{,}000 \times 1.25 = 6{,}250$

(*iii*) Share Exchange Ratio based on Market Price :

$$\text{Share Exchange ratio} = \frac{\text{Market price of Target firm}}{\text{Market price of a Acquiring firm}}$$

$$\text{Share Exchange ratio} = \frac{₹\ 27}{₹\ 24} = 1.125$$

Number of shares to be issued $= 5{,}000 \times 1.125 = 5{,}625$

From the point of view of X Ltd., the Share Exchange ratio based on net asset value may be preferred because in this case the number of shares to be issued is least *i.e.*, 4,060 only.

Problem 19.2

A Ltd. is studying the possible acquisition of B Ltd. and the following information is available:

	A Ltd.	B Ltd.
Profit after tax	₹ 2,00,000	₹ 60,000
Equity shares outstanding	40,000	10,000
Market price	₹15	₹12

(*i*) If the merger take place by exchange of equity shares based on market price, what is the EPS of the new firm.

(*ii*) B Ltd. wants to be sure that the earnings available to its shareholders will not be diminished after merger. What should be the exchange ratio.

Q-19.2

i) Exchange of shares on the basis of Market Price :

Share Exchange ratio = M/P of Target Co., ÷ M/P of Acquiring Co.,

= Rs.12÷Rs.15

= 0.8

No. Of Shares to be issued by A Ltd (10000 * 0.8) = 8000 no. Of sh.

Total Shares of A Ltd (40000 + 8000) = 48000 no. Of sh.

Total Earnings per Share = Total Earnings ÷ Total no. Of Sh.

= 260000 ÷48000 = Rs 5.42 per Eq. Sh.

ii) **If B Ltd. Wants to maintain earnings of its shareholders:**
Calculation of Earnings Per Share (EPS) = Total Earnings ÷ Total no. Of Sh.

A Ltd. = 200000÷ 40000 = Rs. 5

B Ltd= 60000÷ 10000 = Rs. 6

Share Exchange Ratio = EPS of Target co., ÷EPS of Acquiring co.,

= 6÷5 = 1.2

No. Of Shares to be issued by A ltd (10000 * 1.2) 12000 no. Shares

Total no. Of Shares of A ltd (after merger) 40000 + 12000 52000 no. Shares

EPS of A Ltd (after merger) = Total Earnings ÷ Total no. Of Sh.

= 260000 ÷52000 = Rs. 5

Comparative position of S/h of B Ltd

	Before Merger	**After Merger**
No. Of Shares	10000	12000
EPS	Rs. 6	Rs. 5
Total Earnings	Rs. 60000	Rs. 60000

So the earnings of Shareholders of B Ltd are maintained.

Problem 19.3

The following data relates to two companies PBS and TPS :

	PBS	TPS
Profit after tax (₹ '000)	100	20
Equity shares (in '000)	50	5
Price-earnings ratio	20	10

(i) If companies PBS and TPS merge by exchanging one share of company PBS for each share of company TPS, how would earnings per share of the two companies be affected ? What is the market value exchange ratio ?

(ii) If the exchange ratio were 3 shares of company PBS for two shares of company TPS, what would be the impact of earnings per share after merger ? Assume that there would be synergy benefits equal to 20% increase in the present earnings due to merger.

Solution :

Q-19.3

i) If exchange ration is 1:1

Existing shares of TPS	5000
Exchange Ratio is	1:1
New Shares	5000
Total Shares in PBS	55000
Total Profit After Merger (100000 + 20000)	Rs. 120000

EPS after Merger = Total Earnings ÷ Total n. Of shares
= 120000 ÷55000
= Rs. 2.18

ii) If the Exchange ratio is 3:2

New shares to be issued- 5000 * 3 ÷2	7500 no. Of shares
Total shares in PBS	57500 no. Of shares
New Earnings after 20% benefits	Rs. 144000

(120000*20% = 24000/-)

(120000 + 24000= 144000/-)

EPS after merger = Total Earnings ÷ Total no. Of Sh.

= 144000 ÷ 57500

= Rs.2.50

iii) **Market value exchange ratio:**

M/V = EPS * PE Ratio

(PE Ratio = Market price per shares ÷ Earnings price per shares)

EPS = PAT ÷ No. Of Eq. Sh

PBS - EPS = 100 ÷ 50 = rs. 2/-

TPS – EPS = 20 ÷ 5 = 4/-

M/V = EPS * PE Ratio

Market value of PBS = 2 * 20 = Rs. 40/-

Market value of TPS = 4 * 10 = Rs.40/-

Market value ratio = 40/- : 40/-

1: 1 of both the co.,

Problem 19.4 ✓

Company X acquires Company Y on "Share exchange" basis. The position before take-over was as under.

	Company X	Company Y
No. of shares	10,000	5,000
Total earnings	₹ 1,00,000	₹ 50,000
Market price of share (MPS)	₹ 20	₹ 15

The shareholders of Company Y are offered 3 shares of Company X for 4 shares Company Y.

You are required to calculate the EPS of the amalgamated company *vis-a-vis* before take over position, of the two companies and gain/loss of the shareholders of both the firms consequent to amalgamation.

19.4

Solution

As the Share Exchange ratio is given as 3 : 4, Company X would issue 3,750 *(i.e.,* 5,000 X 3/4) shares to the shareholders of Company Y (4 shares of co., Y are equal to 3 shares of co., X)

Position of EPS of the two companies

	Before take-over		After take over
	Company X	Company Y	Company (X+Y)
No. of shares	10,000	5,000	13,750 (3750 +10000)
Total earnings(Rs.)	1,00,000	50,000	1,50,000

Mkt Share price (MPS	Rs.20	Rs. 15	
EPS	Rs.10	Rs. 10	Rs. 10.91

Formula: EPS = Total Earnings / Total No. of Shares

Gain or loss due to Amalgamation (Company Y)	Rs.
Present dividend of shareholders of Y (5,000X10)	50,000.00
New dividend from X (3,750 * Rs.10.91)	40,912.50
Loss	-9,087.50

Gain or loss due to Amalgamation (Company X)	Rs.
Present dividend of shareholders of X (10,000 * Rs.10)	1,00,000
After the mgr. Net dividend from X (10,000 *Rs.10.91)	1,09,100
	+ 9,100

Therefore, as a result of amalgamation, the annual dividend/ earnings of the shareholders of -

Company Y would be reduced by Rs. - 9,087.50,

whereas earnings of the shareholders of Company X would increase by Rs. + 9,100.

Problem 19.5

Firm E is studying the possible acquisition of Firm F by way of merger. The following data are available in respect of these two firms.

	Firm E	Firm F
Earnings after tax	₹ 2,00,000	₹ 60,000
No. of equity shares	40,000	10,000
Market value per share	₹ 15	₹ 12

(*i*) If the merger goes through by exchange of equity share and the exchanges ratio is based on the current market price, what is the new earnings per share for Firm E ?

(*ii*) Firm F wants to be sure that the earnings available to its shareholders will not be diminished by the merger. What should be the exchange ratio in that case ?

Solution :

19.5

i. After merger (Based on current market price) M/s Ratio

Market Value of Firm F = Market value of targeted co., / market value of acquiring co.,

= 12/15 = 0.8

New share (10000*0.8) = 8000

Total No.of new shares of Co.,E(40,000+8,000) 48,000

Total Earnings after tax (2,00,000+60,000) Rs.2,60,000

EPS Co., E (after merger) = 2,60,000/ 48,000 = Rs. 5.42

ii. Calculation of Exchange Ratio to maintain Earnings :

Present EPS of two firms

Firm E = 200000/40000 = Rs. 5

Firm F = 60000/10000 = Rs.6

Exchange ratio of EPS = EPS of Targeted co.,/ Acq. Co.,

=6/5 = 1.20

No. of new shares Fco. 10,000X1.20 = 12,000

Total No. of share after merger 40,000+12,000=52,000

EPS after merger = Total earnings / Total no. of sh

= 260000/52000 = Rs. 5

	Before merger	After merger
No. of Shares F co.,	10000	12000
EPS (Rs.)	6	5
Total earnings(Rs.)	60000	60000

Therefore Firm F maintains the same earnings even after the merger i.e Rs. 60000.

Problem 19.6

XYZ Ltd. is considering merger with ABC Ltd. XYZ Ltd.'s shares are currently traded at ₹ 25. It has 2,00,000 shares outstanding and its earnings after taxes (EAT) amount to ₹ 4,00,000. ABC Ltd. has 1,00,000 shares outstanding; its current market price is ₹ 12.50 and its PAT is ₹ 1,00,000. The merger will be effected by means of a stock swap (exchange). ABC Ltd. has agreed to a plan under which XYZ Ltd. will offer the current market value of ABC Ltd.'s shares :

(*i*) What is the pre-merger earnings per share (EPS) and P/E ratios of both the companies ?

(*ii*) If ABC Ltd.'s P/E ratio is 8, what is its current market price ? What is the exchange ratio ? What will XYZ Ltd.'s post-merger EPS be ?

(*iii*) What must be exchange ratio be for XYZ Ltd.'s that pre and post-merger EPS to be the same?

Solution :

19.6

pre merger EPS and P/E Ratio of xyz ltd and abc ltd

	xyz(Tco.,)	**abc(aq.co.)**
EAT(Rs.)	400000	100000
No. Sh.	200000	100000
M/p/p/s(Rs.)	25	12.50
EPS (Rs.)	2	1

i) EPS – pre merger and P/E Ratio

EPS = Total ear./ no. of shares

Xyz = 400000/200000 = Rs. 2
Abc = 100000/100000 = Rs.1

P/E Ratio = M/P/P/S ÷ E/P/P/S

Xyz = 25/2 = 12.5 times
Abc = 12.5/1 = 12.5 times

ii) If P/E Ratio = 8
What is M/P/P/S of Abc ltd?

a) PE ratio= M/P/P/S ÷ E/P/P/S

8= M/P/P/S ÷ 1

M/P/P/S = 8

b) Mkt exchange ratio =Target co. M/P ÷ Acq.co M/P

= 25 ÷ 8

= 3.125 times

Therefore 1 share of xyz ltd = 3.125 share of abc ltd

c) Xyz ltd – Post merger – EPS

- New shares of Acq. Co.(abc ltd), = Total Shares ÷ Exchange Ratio

= 100000 ÷ 3.125

= 32000 no. of shares

- Total no. of new shares = xyz ltd + abc ltd

= 200000 + 32000

= 232000 no. of shares

Therefore post merger EPS xyz ltd = total earnings / total no. of new shares

= 400000+100000 / 232000

= Rs. 2.16 per share.

iii) Total no. of shares in post-merger co.,

= Post – merger earnings ÷ Pre-merger EPS of xyz Ltd.

= 500000 ÷ 2

= 250000 no. of sh.

No. of shares required to be issued = post merger shares–pre-merger shares

= 250000 – 200000

= 50000 no. shares

Therefore the exchange ratio is = 50000/100000 = 0.50 times

Problem 19.7

A Ltd. wants to acquire T Ltd. by exchanging 0.5 of its shares for each share of T Ltd. Relevant financial data are as follows:

	A Ltd.	T Ltd.
EAT	₹ 18,00,000	₹ 3,60,000
Equity shares outstanding	6,00,000	1,80,000
– EPS	₹3	₹2
PE Ratio	10 times	7 times
Market price per share	₹ 30	₹14

Required :

(*i*) The number of equity shares required to be issued by A Ltd. for acquisition of T Ltd.

(*ii*) What is the EPS of A Ltd. after the acquisition ?

(*iii*) Determine the equivalent earnings per share of T Ltd.

(*iv*) What is the expected market price per share of A Ltd. after the acquisition, assuming its PE multiple remains unchanged ?

(*v*) Determine the market value of the merged firm.

Solution:

19.7

i) The number of shares to be issued by A ltd:

The exchange ratio given in the sum= 0.5

New shares = 180000 * 0.5 = 90000 Shares

ii) EPS of A ltd after acquisition :

Total earnings of both the co., 1800000+360000 = Rs. 2160000

Total No. of shares 600000 + 90000 = 690000

EPS = Total Earnings / Total No. of shares = 2160000 / 690000 = Rs. 3.13

iii) Equivalent EPS of T Ltd:

No. new Shares (ex. Ratio) - 0.5

New EPS - Rs. 3.13

Equivalent EPS Rs.3.13 * 0.5 = Rs. 1.57

iv) New Market Price of A ltd (PE remaining uncharged):

Present PE Ratio of A ltd – 10 times

Expected EPS after merger Rs. 3.13

Expected Market price Rs. 3.13 * 10 = Rs. 31.30

v) Market value of merged firm: both the co.,

Total no. of shares – 690000

Expected market price – Rs. 31.30

Total value – 690000 * 31.30 = Rs. 2,15,97,000/-

Problem 19.8

B Co. is being acquired by A Co. on a share exchange basis. Their selected data are as follows :

	A	B
Profit after tax (₹ lakh)	56	21
Number of shares (lakh)	10	8.4
Earnings per share (₹)	5.6	2.5
Price-earnings ratio	12.5	7.5

Determine (*a*) pre-merger, market value per share, and (*b*) the maximum exchange ratio A Co. should offer without the dilution of (*i*) EPS (*ii*) market value per share.

Solution :

19.8

i) Pre – Merger M/P

A ltd - M/P = EPS * PE Ratio

M/P =Rs. 5.60 * 12.5 times

= Rs.70

M/P - B ltd = EPS * PE Ratio

= Rs. 2.5 * 7.5 times

= Rs. 18.75

ii) – (a) Maximum Exchange Ratio without dilution of EPS of A ltd:- after merger

If A Ltd wants not to dilute EPS after merger, then it should offer such no. of shares at which EPS will be maintained. This may be ascertained as follows:

Total earnings after merger (5600000+2100000) = Rs. 77,00,000

Required EPS of A ltd - Rs. 5.60

New shares calculation of A ltd – acquiring co.,:

No. of Shares
1375000
(T/E ÷E/P/S of A ltd. = 7700000/5.6)

Less: Existing shares of A ltd 1000000
New Share
375000

New Exchange Ratio = New shares of A ltd/Existing shares of B ltd
= 375000/ 840000
= 0.446 times

ii)-(b) maximum exchange ratio without dilution of market price of A ltd (Calculation of Total market value per share) :

Existing market price (as calculated in the beginning) of A ltd 1000000 * 70/- = Rs.7,00,00,000

Existing market price (as calculated) of B ltd 840000 * 18.75/- = Rs. 1,57,50,000/-

Total Market price value of new firm Rs. 8,57,50,000

New Shares calculation:
Market price to be maintained is Rs. 70/-
No. of shares = Total Market price value of after merger/ A ltd Market price
= Rs. 8,57,50,000/ Rs.70
= 12,25,000 No. of shares

New share of A ltd	12,25,000
Less: existing shares of A ltd	10,00,000
New shares	2,25,000

M/P Exchange ratio = total no. of new shares A ltd / existing shares of B ltd
= 225000/840000
= 0.2678 times.

FORMULA

Exchange Ratio:

1. Based on Net asset value = Intrinsic worth per share of Target firm / Intrinsic worth per share of acquiring firm

2. Based on EPS = EPS of Target firm / EPS of acquiring firm

3. Based on M/P = M/P of Target firm / M/P of acquiring firm

P/E Ratio = M/P/P/S / E/P/P/S

M/P/P/S= E/P/P/S * P/E Ratio

E/P/P/S= M/P/P/S÷ P/E Ratio

Bibliography:

- *Financial management "Text , Problems and cases" - Khan & Jain - Page No. 1.4 and 1.7*
- *www.icai.org*
- *I M Pandey Page No.- 189-200*
- *Financial management- I.M Pandey, Page No. - 342 - 374*
- *Financial Management "Problems and solutions-M Y Khan and P K Jain - Page No. 20.3- 30.29*
- *Financial management "Text , Problems and cases" - Khan & Jain. Page No. - 13.3 - 13.42*
- *Financial management "Text , Problems and cases" - Khan & Jain Page No.- 36.1 - 36.45.*
- *Strategic financial management - Ravi M Kishore.Page No. - 924- 955*
- *Financial management "problems and solution" -Dr R.P Rustagi - Page No.- 371 – 374, Dr. R P Rustagi - Page No. -435 – 438*
- *Financial management- C Parmasivan and T Subramanian- Page No.- 149-16, -Page No. -99 17, -Page No. - 1 – 8*
- *www.shodaganga.com*
- *Kishore, R. M. Sinha,*
- *Reddy, P. (2007). Mantravadi .*
- *Kishore, R. M. (2009). 1067-1096.*
- *www.Hindu Times.com.*
- *Mundargi, K. IBA Bulletin ,*
- *(2005). IBA Bulletin special issue Jun*
- *(2005). IBA Bulletin special issue Jan .*
- *(2005). IBA Bulletin special issue Jan*
- *(Jan 31st, 2004.). The Economic Times, Bangalore.*
- *(2005). Bennett ,*
- *(Oct 11th, 2004). The Economic Times, Bangalore.*
- *http://imaa-institute.org/tag/ma/M & A Statistics*

- *http://ibef.org.*
- *www.dreamstime.com.*
- *Agrawal, A. J. (n.d.). The post-merger performance of acquiring firms: a*
- *Corporate Finance. , 1-36.*
- *Asquith, P. R. (1990). Merger returns and the form of financing. Working*
- *paper, Massachusetts Institute of Technology (1990).*
- *Asquith, P. (1983). Merger Bids, Uncertainty, and Stockholders Returns.*
- *https://dealroom.net/blog/successful-acquisition-examples*