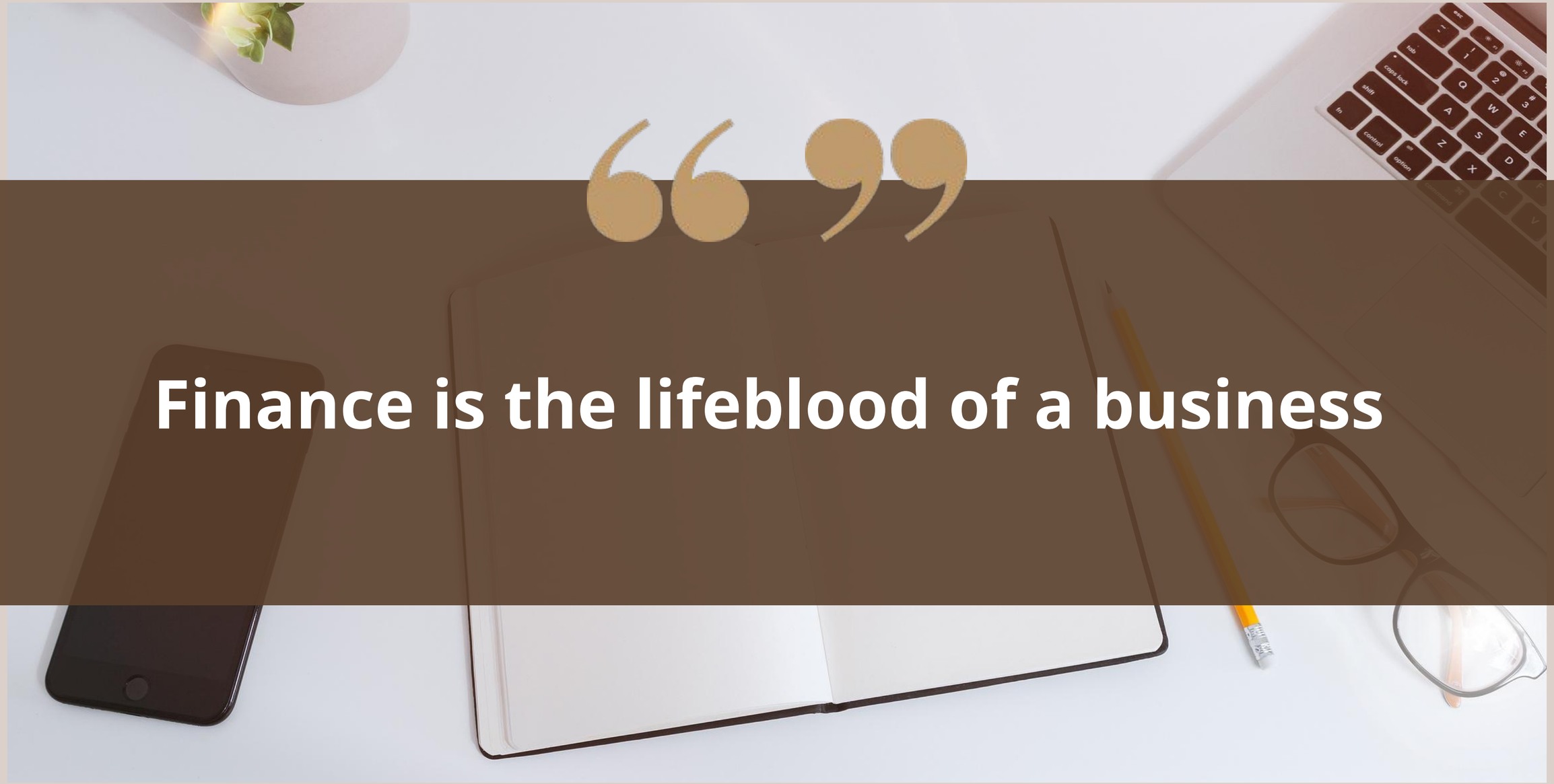
Ms. Ruchita Lodaliya

# Financial Management

Innovation, Incubation and Entrepreneurship



# Finance is the lifeblood of a business

# Financial Management

Managerial activity concerning the finance of the firm. It deals with planning, control and management of financial resource of the firm.

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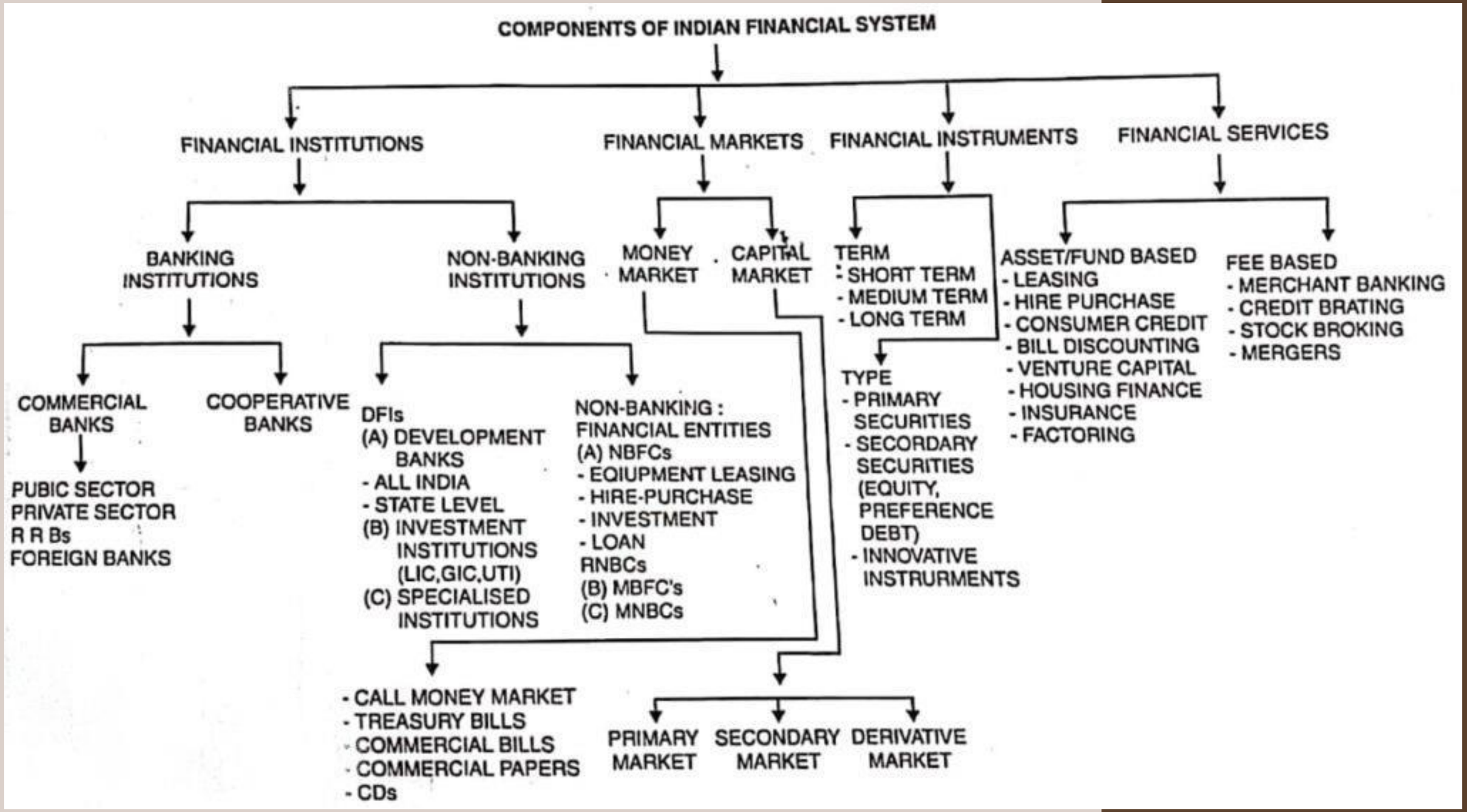
# Functions of Finance

## Routine Finance Function

1. Supervision of cash receipts and payments
2. Safeguarding cash balances
3. Record keeping (accounting)
4. Custody and safeguarding of securities, insurance policies, and other important documents
5. Taking care of the mechanical details of outside finances
6. Regular return of borrowed funds.

## Managerial Finance Function

1. Estimating financial requirements
2. Identifying sources of finance
3. Raising of finance
4. Proper use of finance
5. Control of finance

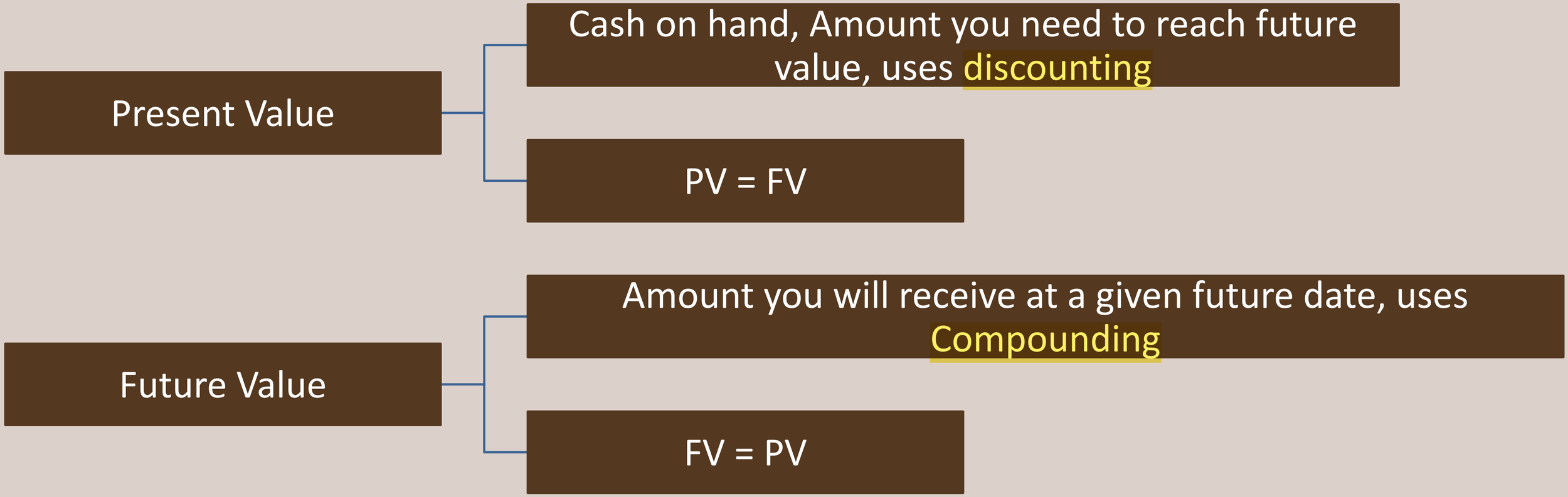

COMPONENTS OF INDIAN FINANCIAL SYSTEM
FINANCIAL INSTITUTIONS
FINANCIAL MARKETS
FINANCIAL INSTRUMENTS
FINANCIAL SERVICES
BANKING INSTITUTIONS
NON-BANKING INSTITUTIONS
MONEY MARKET
CAPITAL MARKET
TERM
- SHORT TERM
- MEDIUM TERM
- LONG TERM
ASSET/FUND BASED
- LEASING
- HIRE PURCHASE
- CONSUMER CREDIT
- BILL DISCOUNTING
- VENTURE CAPITAL
- HOUSING FINANCE
- INSURANCE
- FACTORING
FEE BASED
- MERCHANT BANKING
- CREDIT BRATING
- STOCK BROKING
- MERGERS
COMMERCIAL BANKS
COOPERATIVE BANKS
PUBIC SECTOR
PRIVATE SECTOR
R R Bs
FOREIGN BANKS
DFIs
(A) DEVELOPMENT BANKS
- ALL INDIA
- STATE LEVEL
(B) INVESTMENT INSTITUTIONS (LIC,GIC,UTI)
(C) SPECIALISED INSTITUTIONS
NON-BANKING : FINANCIAL ENTITIES
(A) NBFCs
- EQIUPMENT LEASING
- HIRE-PURCHASE
- INVESTMENT
- LOAN
RNBCs
(B) MBFC's
(C) MNBCs
TYPE
- PRIMARY SECURITIES
- SECORDARY SECURITIES (EQUITY, PREFERENCE DEBT)
- INNOVATIVE INSTRURMENTS
- CALL MONEY MARKET
- TREASURY BILLS
- COMMERCIAL BILLS
- COMMERCIAL PAPERS
- CDs
PRIMARY MARKET
SECONDARY MARKET
DERIVATIVE MARKET

# Time Value of Money

Concept Which states that purchasing power of money differs with the passage of time

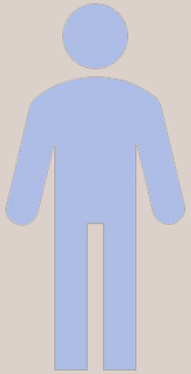
Effect of time value of money on daily routine life:

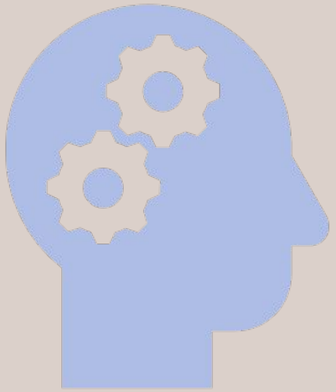
1. Spending, 2. Saving, 3. Borrowing and 4. Investing



# Time Value of Money

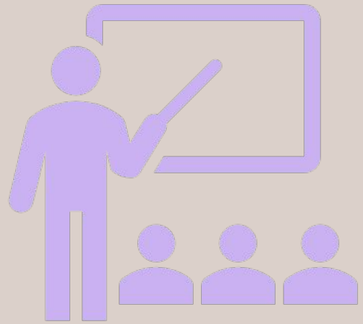
## Future value

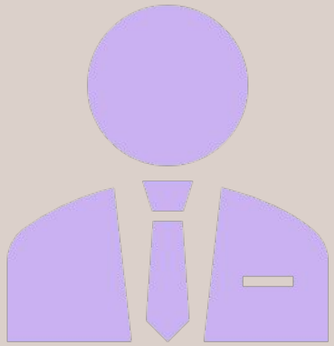




Common man

## Present value





Business man

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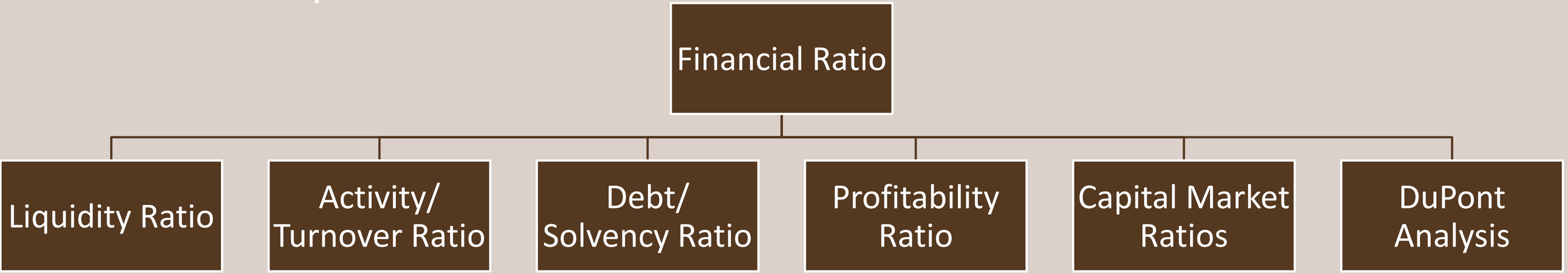
# Ratio Analysis

Ratio analysis seeks to measure and establish cause-and-effect relationships between either two items of a balance sheet or of a profit and loss account, or both the balance sheet and the profit and loss account. Thus, ratio analysis is a more focused analysis of financial statements. The interpretation of results for decision making is the most critical part of ratio analysis.

## Significance

- **Comparison against industry benchmarks.**
- **Inter-firm comparison because absolute figure comparison will not be conclusive**
- **Analysis of chronological performance over a long period.**
- **Intra-firm comparison.**



# Liquidity Ratios

The liquidity of a firm is measured by its ability to satisfy its short-term obligations as they come due The capacity of an enterprise to discharge its suppliers and service providers and to meet its day-to-day expenses indicates its liquidity and ensures the smooth continuity of operations, which in turn, has a strong bearing on the long-term survival of the company.

- **Current ratio=Current assets/Current liabilities**
- **Quick ratio (acid-test) ratio Current assets (Inventory/Current liabilities)**
- **Collection period to customers (days) Receivables (365/Credit sales)**
- **Suppliers credit (days) Payables (365/Credit purchases)**
- **Inventory-holding period Inventory (365/Cost of goods sold)**

# Activity/Turnover Ratios

Activity ratios measure the speed with which various accounts are converted into sales or cash inflows or outflows. The efficiency with which the assets and resources of a company are utilized in generating operational revenue has a direct bearing on the top line. It is, therefore, important to study the turnover ratios.

- **Inventory turnover = Cost of goods sold/Inventory**
- **Average collection period = Accounts receivable/Average sales per day**
- **Average payment period = Accounts payable/Average purchases per day**
- **Total asset turnover = Sales/Total assets**

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# Debt/Solvency Ratios

The capacity of an enterprise to discharge its obligations towards long-term lenders indicates its financial strength and ensures its long-term survival. The debt position of a firm indicates the amount of other people's money being used to generate profits. It is important to analyse the capacity of an enterprise to raise further capital borrowings. These are particularly useful for financial institutions, banks, and other lenders to assess the creditworthiness of a company and the attendant financial default risk.

- **Debt ratio = Total liabilities / Total assets**
- **Net asset value (NAV) = Equity shareholders' funds / No, of equity shares**
- **Debt equity ratio = Long-term debt Total net worth**
- **Interest cover ratio (Interest cover) = PAT interest on long-term debt (Non-cash charges/Interest on long-term debt)**
- **Debt-coverage service (DSCR ratio) = PAT+ Interest on long-term debt+ (Non-cash charges Interest on long-term debt) + Installments of principal due**

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# Profitability Ratios

Profitability ratios enable the analyst to evaluate the firm's profits with respect to a given level of sales, a certain level of assets, or the owner's investment. These ratios analyse the profitability of an enterprise at different steps or at intermediate levels of business activities.

- **Gross profit margin-Gross profits sales**
- **Operating profit margin-Operating profits/sales**
- **Net profit margin-Earnings available for common stockholders/Sales**
- **Earnings per share (EPS) =** $\frac{Earnings\ available\ for\ common\ stockholders}{Number\ of\ shares\ of\ common\ stock\ outstanding}$
- **Return on total assets (ROA) = Earnings available for common stockholders / Total assets**
- **Return on common equity (ROE) = Earnings available for common stockholders / Common stock equity**
- **Return on net worth (RONW) = (PAT-Preference dividend/Equity shareholder's funds or net worth) ×100**

# Capital Market Ratios

The capital market has become a major source of capital, both for equity as well as bonds and debentures for the industry. Market ratios relate a firm's market value, as measured by its current share price, to certain accounting values. It is necessary for the entrepreneur to have a knowledge of these ratios.

- **Price/earnings (P/E) ratio = Market price per share of common stock / Earnings per share**
- **Market/book (M/B) ratio = Market price per share of common stock / Common stock equity**

# Capital Budgeting

- Capital budgeting is the process of evaluating and selecting long-term investments that are consistent with the goal of shareholders' wealth maximization. The capital budgeting process deals with identifying and selecting investment projects whose returns are expected to extend beyond one year.
- Capital budgeting decisions are of paramount importance in financial decision making because such decisions are long term, not easily reversible, involve cost, and affect the profitability of an enterprise.

## Capital Budgeting involves:

1. Generating investment proposals consistent with the strategic firm's objectives.
2. Project analysis or project feasibility study.
3. Evaluating and selecting projects based on a value maximizing acceptance criteria.
4. Project financing
5. Implementing investment projects continually

1

# GENERATING INVESTMENT PROJECT PROPOSALS CONSISTENT WITH THE FIRM'S STRATEGIC OBJECTIVES.

The enterprise may be confronted with three types of capital budgeting decisions:

(1) the accept-reject decision, (2) the mutually exclusive choice decision, and (3) the capital rationing decision.

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# PROJECT ANALYSIS

- Market Analysis
- Technical Analysis
- Financial Analysis
- Economic Analysis
- Ecological Analysis

# Project Feasibility Study: A schematic Diagram

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Preliminary work

Generation of Ideas

Initial Screening

Is this idea prima facie Promising ?

No → Terminate

Yes

Analysis

Plan feasibility analysis

Conduct Market analysis

Conduct Technical analysis

Conduct Financial analysis

Conduct Economic and Ecological analysis

Evaluation

Is the project worthwhile ?

No → Terminate

Yes

Prepare funding proposal

3

# PROJECT EVALUATION AND SELECTION

## Non-discounting Criteria

- The Payback Period (PBP)
- Accounting Rate of Return (ARR)

## Discounting Criteria

- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Benefit-Cost Ratio (BCR)

## The Payback Period (PBP)

The amount of time that it takes to recover the cost of investment made in a project.

All other things remaining equal, the better investment is the one with the shorter pay back period

- Ignores the time value of money.
- Do not measure profitability

Payback period (PBP) = Cost of project/Annual cash inflows

# Example

If a project costs INR. 100,000 and is expected to return INR. 20,000 annually, the payback period is 5 years.

Payback period 100,000/20,000-5 years

# Accounting Rate of Return (ARR)

$$ARR = \frac{\text{Average annual profit after taxes}}{\text{Average investment over the life of the project}}$$

This is also referred to as the average rate of return on investment. It is a measure of profitability which relates income to investment, both measured in accounting terms.

The limitation of the ARR method is that it uses profit rather than cash flows

## EXAMPLE

Shakti Construction Company has an option of two projects, A and B, with the same initial capital investment of INR. 100,000. The profits for both the projects are given below.The estimated resale value of both projects at the end of the third year is INR. 22,000. Calculate the ARR for each project and advise the company.

| Project | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| A | INR. 10,000 | INR. 5,000 | INR. 15,000 |
| B | INR. 12,000 | INR. 11,000 | INR. 4,000 |

***Solution:***

**ARR for Project A**

Average profit = (10,000 + 5,000 + 15,000)/3 = INR. 10,000
Average investment = (100,000 + 22,000)/2 = INR. 61,000
Accounting rate of return = 10,000/61,000 = 16.39%

**ARR for Project B**

Average profit = (12,000 + 11,000 + 4,000) /3 = INR. 9,000
Average investment = (100,000 + 22,000)/2 = INR. 61,000
Accounting rate of return = 9,000/61,000 = 14.75%
Since Project A has higher ARR, it should be chosen.

# Net Present Value (NPV)

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t} = \frac{CF_0}{(1+r)^0} + \frac{CF_1}{(1+r)^1} + \dots + \frac{CF_n}{(1+r)^n}$$

For a project to be viable, the net present value of the project has to be positive. A negative net present value indicates that the project is not viable. When choosing among mutually exclusive projects, the project with the largest (positive) NPV should be selected. The NPV calculated as the present value of the project's cash inflows minus the present value of the project's cash outflows.

**EXAMPLE**

Consider capital budgeting projects A and B, which yield the following cash flows over a period of five years. Calculate the NPV of A and B and suggest which of the two projects should be accepted. The cost of capital for the project is 10 per cent.

| Year | Project A: Cash Flow in INR. | Project B: Cash Flow in INR. |
|---|---|---|
| 0 | −1,000 | −1,000 |
| 1 | 500 | 100 |
| 2 | 400 | 200 |
| 3 | 200 | 200 |
| 4 | 200 | 400 |
| 5 | 100 | 700 |

***Solution:***

**NPV for Project A**

NPV = −1,000 + 500/(1 + 0.10)1 + 400/(1 + 0.10)2 + 200/(1 + 0.10)3 + 200/(1 + 0.10)4 + 100/(1 + 0.10)5 = INR. 134.08

**NPV for Project B**

NPV = −1,000 + 100/(1 + 0.10)$^1$ + 200/(1 + 0.10)$^2$ + 200/(1 + 0.10)$^3$ + 400/(1 + 0.10)$^4$ + 700/(1 + 0.10)$^5$ = INR. 114.31

Thus, if Projects A and B are independent projects, then both the projects should be accepted. On the other hand, if they are mutually exclusive projects then Project A should be chosen since it has a larger NPV.

# Internal Rate of Return (IRR)

IRR is sometimes referred to as the "economic rate of return." IRR is the rate of return on an investment. the rate of return at which the net present value of a stream of payments/incomes is equal to zero. It is the discount rate which equates the present value of future cash flows with the initial investment.

$$Investment = \sum_{t=1}^{n} \cdot \frac{C_t}{(1+r)^t}$$

**EXAMPLE**

Find the IRR of the following investment proposals. The initial investment is INR. 70,000 and the expected annual cash inflow is INR. 24,000. The economic life of the project is four years. The present value of INR. 1 for 4 years at 10% is 3.17, at 12% is 3.037, and at 14% is 2.914,

***Solution:***

At 12%,

PV of total cash inflow = 3.037 × 24,000 = 72,880

At 14%,

PV of total cash inflow = 2.914 × 24,000 = 69,936

$$IRR = 12 + \left(\frac{72{,}880 - 70{,}000}{72{,}880 - 69{,}936}\right) \times 2$$

$$= 13.6\ \%$$

# Benefit-Cost Ratio (BCR)

The BCR is also referred to as the "profitability index. "It is an investment appraisal technique. Profitability index is actually a modification of the net present value method. While NPV is an absolute measure as it gives the total value in Indian rupees for a project, the profitability index is a relative measure as it gives the value in the form of a ratio.

$$BCR = BCR = \frac{PVB}{I}$$

$$Net\ Benefit\text{ - }Cost\ Ratio\ (NBCR) = BCR\text{-}1$$

Profitability index = 1+(NPV/Initial investment required)

**EXAMPLE**

Alliance Solar Company is undertaking a project at a cost of INR. 50 crore, which is expected to generate future net cash flows with a present value of INR. 65 crore. Calculate the profitability index.

***Solution:***

$$\text{Profitability index} = \frac{\text{PV of cash inflow}}{\text{PV of cash outflow}} = 65/50 = 1.3$$

It can also be calculated as below:

Profitability Index = 1 + (NPV/Initial investment required)

NPV = Present value of net future cash flows – Initial investment required

NPV = 65 – 50 = 15

Profitability Index = 1 + 15/50 = 1.3

| Criteria | Accept | Reject |
|---|---|---|
| Payback period (PBP) | PBP < Target period | PBP > Target period |
| Accounting rate of return (ARR) | ARR > Target rate | ARR < Target rate |
| Net present value (NPV) | NPV > 0 | NPV < 0 |
| Internal rate of return (IRR) | IRR > Cost of capital | IRR < Cost of capital |
| Benefit–cost ratio (BCR) | BCR > 1 | BCR < 1 |

# 4 PROJECT FINANCING

## Equity Financing

- Equity Capital
- Preference Capital
- Internal Accruals
- Venture Capital
- Angel Investing

## Debt Financing

- Term Loans
- Debentures

# 5

# PROJECT IMPLEMENTATION PHASE

The implementation phase for a project involves the setting up of facilities. For project planning and control, two basic network techniques are available program evaluation and review technique (PERT) and critical path method (CPM) These techniques help in monitoring the project. Once the project is commissioned, performance review is done periodically to compare the actual performance with projected performance.

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## Working Capital

- Funds that a company must possess to finance its day to day operations.
- It is a short term fund needed to meet operating expenses.
- Net of current assets minus current liabilities
- Equals to the value of raw materials, work in progress, finished goods inventories and accounts receivable less accounts payable

Working Capital

- Gross Working Capital
  - Sum of all current assets that appear in the balance sheet
- Net Working Capital
  - The excess of current assets over current liabilities

Working Capital

- Permanent
  - Assets that are required on a continuing basis over the entire year
- Temporary
  - Additional assets required at different times during the year

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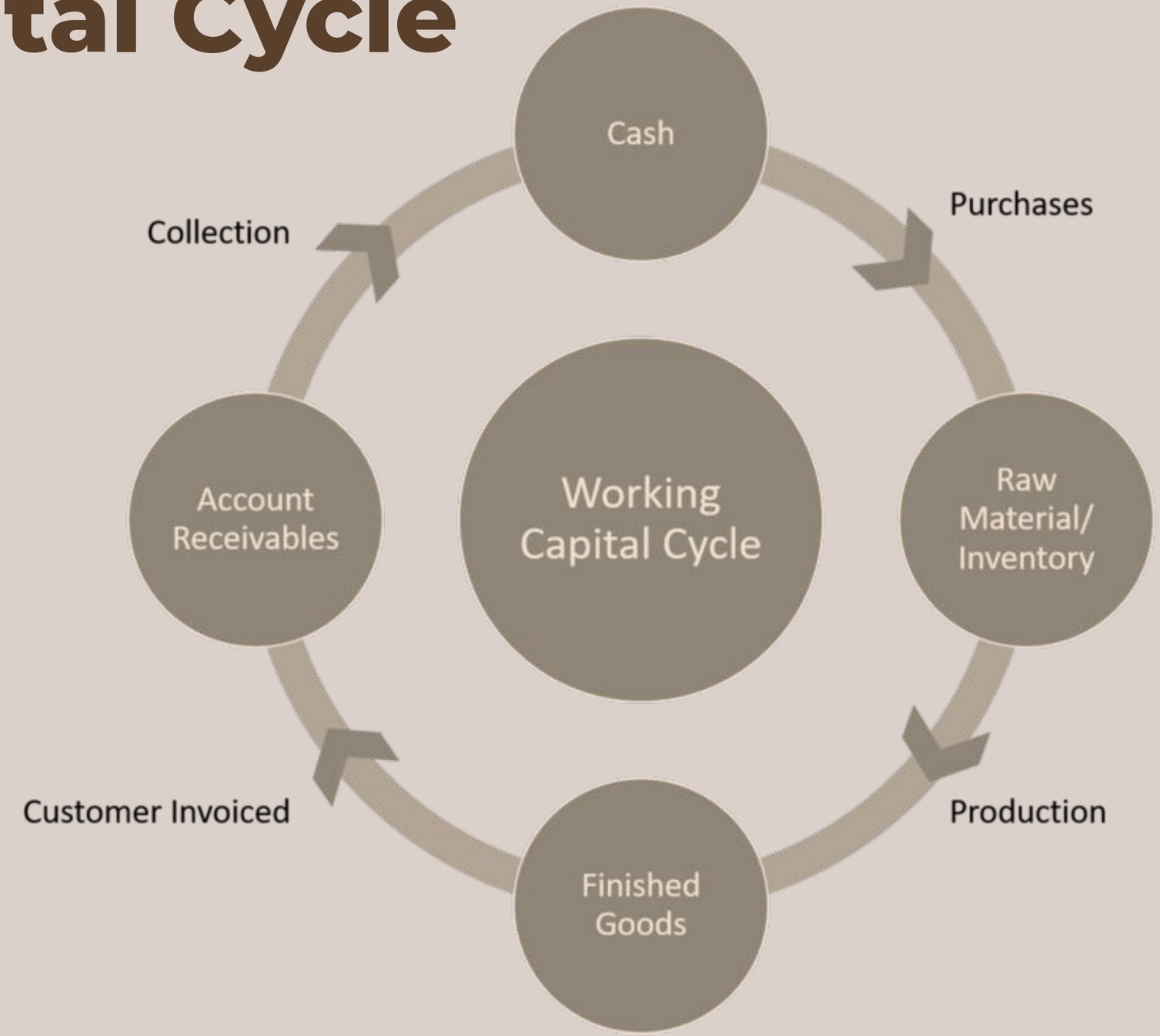
# Working Capital Cycle

$$\textbf{\textit{Working Capital Cycle}} = \textbf{\textit{Inventory days}} + \textbf{\textit{Receivable days}} - \textbf{\textit{Payable days}}$$

$$Inventory\ days = \frac{Inventory}{Cost\ of\ sales} \times 360\ days$$

$$Receivable\ days = \frac{Receivables}{Sales} \times 360\ days$$

$$Payable\ days = \frac{Payables}{Cost\ of\ Sales} \times 360\ days$$



# Sources of Working Capital

## Long term Financing

Determine the working capital required to finance a level of activity of 180,000 units of out put for a year. The cost structure is given below:

### Short-term Financing

### Spontaneous Financing

| Particulars | Cost Per Unit (INR) |
|---|---|
| Raw materials | 20 |
| Direct labour | 5 |
| Overheads (including depreciation of INR. 5) | 15 |
| Total cost | 40 |
| Profit | 10 |
| Selling price | 50 |

**Additional Information:**

1. Minimum desired cash balance is INR. 20,000.
2. Raw materials are held in stock, on an average, for two months
3. Work-in-progress (assume 50 percent completion stage)will approximate to half a month's production.
4. Finished goods remain in the warehouse, on an average, for a month.
5. Suppliers for materials extend a month's credit and debtors are provided two month’s credit. The cash sales are 25 per cent of total sales.
6. There is a time lag in payment of wages for a month and half a month in the case of overheads.

| Particulars | Amount in INR |
|---|---|
| A. Estimation of current assets | |
| Raw materials: (180,000 x 20 x 2)/12 | 600,000 |
| 21/12Work-in-process: (180,000 x 35 x 0.5)/12×0.5 | 131,250 |
| Finished goods: (180,000 x 35 x 1)/12 | 525,000 |
| Debtors (75% of total units produced): (135,000 x 35 x 2)/12 | 787,500 |
| Cash balance | 20,000 |
| Total current assets | 2,063,750 |
| B. Estimation of current liabilities | |
| Suppliers: (180,000 x 20 x1)/12 | 300,000 |
| Wages: (180,000 × 5x 1)/12 | 75,000 |
| Overheads: (180,000 × 10/10.5)/12 | 75,000 |
| Total current liabilities | 450,000 |
| C. Working capital (A-B) | 1,613,750 |

# Solution:

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# Cash Flow Statement

## It provides benefits:

**It enables users to analyse the changes in the net assets of an enterprise, its financial structure including its liquidity and solvency, and its ability to affect the amount and timing of cash flows in order to adapt to changing circumstances and opportunities.**

The cash generated and utilized by a company is depicted in the cash flow statement.

The salient features of a cash flow statement are:

- Prepared for a given period.
- A derived statement
- Comparative position.
- Vertically drawn.
- Cash flows from operating, investing, and financing activities.
- Reconciliation with the opening and closing balances of cash and cash equivalents.
- Indirect method for cash flows from operating activities.
- Signed by the person who prepared it and the auditors.

# Cash Flow Statement

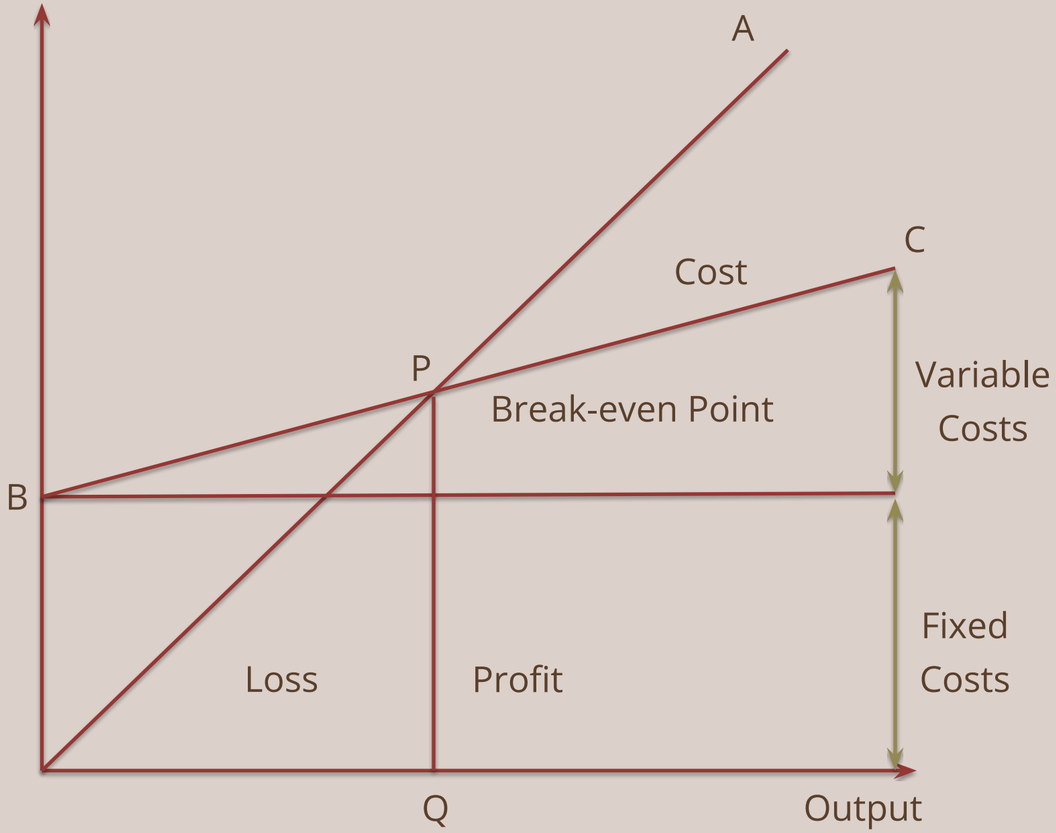
It helps in examining the relationship between profitability and net cash flow.

It is useful in checking the accuracy of the past assessments of future cash flows.

Historical cash flow information is often used as an indicator of the amount, timing, and certainty of future cash flows.

| Year | March 17 | March 16 | March 15 |
|---|---|---|---|
| **Cash Flow Summary** | | | |
| Cash and Cash Equivalents at Beginning of the year | -2,390.49 | -1,100.65 | 27.66 |
| Net Cash from Operating Activities | 9,982.73 | 6,783.05 | 17,841.09 |
| Net Cash Used in Investing Activities | -5,309.84 | -4,354.32 | -3,291.33 |
| Net Cash Used in Financing Activities | -4,015.28 | -3,718.57 | -14,568.26 |
| Net Inc./(Dec) in Cash and Cash Equivalent | 657.61 | -1,289.84 | -18.5 |
| Cash and Cash Equivalents at End of the year | -1,732.88 | -2,390.49 | 9.16 |

# Break-Even Analysis




- BEP is a calculation that forecasts the point at which a company's total revenues are equal to its total expenses.
- BEP is the point of business operations when the business neither earns any profit nor any loss.
- Break even analysis focuses on the relationship between fixed cost, variable cost and selling price.

$$Break-Even\ Point = \frac{Fixed\ Costs}{Selling\ price\ per\ unit\ - Variable\ Cost}$$

The data regarding the fixed costs and variable costs of a company are given below. If the company has to break even, how many units should it sell?

**Fixed Costs:**

Monthly Rent: 1000/-

Insurance: 500/-

Total monthly fixed costs: 1500/-

**Variable Cost:**

Materials: 30/-

Labour: 40/-

Total variable cost: 70/-

**Selling Price: 100/-**

$$Break-Even\ Point = \frac{Fixed\ Costs}{Selling\ price\ per\ unit\ - Variable\ Cost}$$

$$Break-Even\ Point = \frac{1500}{100\ - 70} = \frac{1500}{30} = 50$$

The company should sell 50 unites per month to break even

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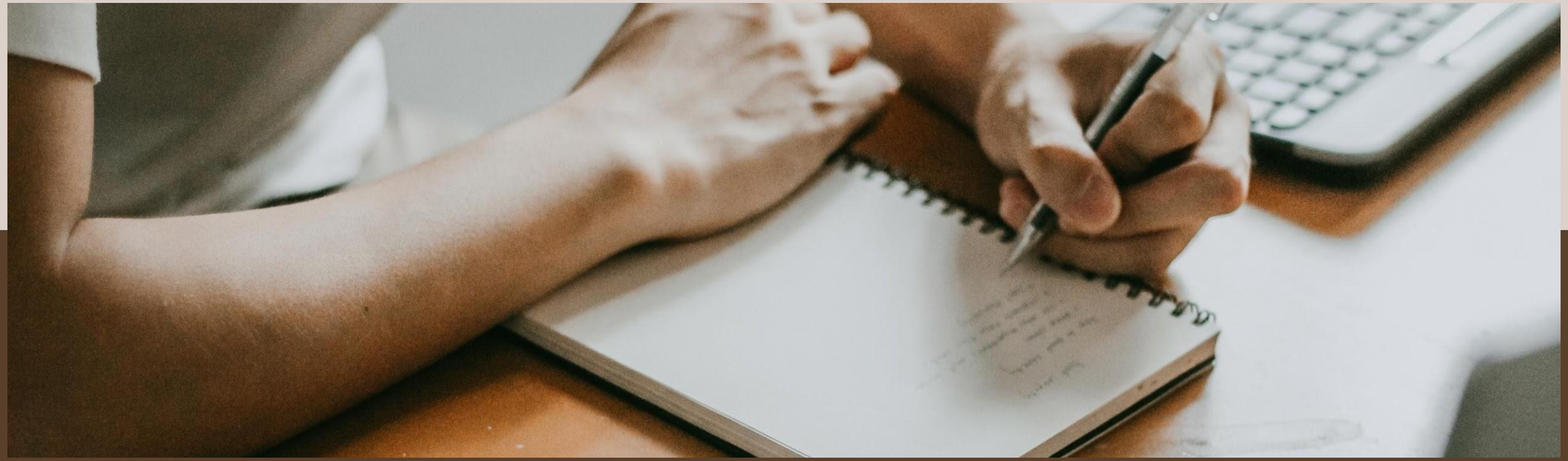

# References