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UNIT 01 WORKING CAPITAL MANAGEMENT

Working Capital Concepts

Need for and components of Working Capital 📄

Kinds of Working Capital 📄

Determinants of Working Capital 📄

Estimation of Working Capital

requirements 📄

CONCEPT OF WORKING CAPITAL

There is no unanimous decision with the definition of working capital. The word working with reference to capital refers to circulation of capital from one form to another during day-to-day operations of business. The word capital refers to the monetary values of all assets of the business. There is lot of difference of opinions among accountants, entrepreneurs and economists

MEANING OF WORKING CAPITAL MANAGEMENT

Working capital management is a very important to ensure that the company has enough funds to carry on with its day-to-day operations smoothly. A business should not have a very long Cash Conversion Cycle. A cash Conversion Cycle measures the time period for which a firm will be deprived of funds if it increases its investments as a part of its business growth strategies. For this the company has to take certain measures such as reduce the credit period of the customers, negotiate with the suppliers and increase its own credit period with them, maintaining the right level of inventory which reduces the raw material costs and proper cash management which ensures that cash holding costs are reduced. If these measures are followed, the working capital requirement automatically comes down

TRADITIONAL AND MODERN CONCEPT OF WORKING CAPITAL

There are two concepts of working capital:

1.5.1 Gross working capital = Traditional concepts of working capital

1.5.2 Net working capital = Modern concepts of working capital

GROSS WORKING CAPITAL

In the broad sense, the term working capital refers to the gross working capital and represents the amount of funds invested in current assets. Thus, the gross working capital is the capital invested in total current assets of the enterprise. Current assets are those assets which in the ordinary course of business can be converted into cash within a short period of time normally one accounting year. Examples of current assets are:

- 1) Cash in Hand and Bank Balances,
- 2) Bills Receivables.
- 3) Sundry Debtors (less provision for bad debts
- 4) Short-Term loans and advances.
- 5) Inventories of stocks, as :

- i) Raw-materials
- ii) Work-in-process
- iii) Stores and spares
- iv) Finished goods
- 6) Temporary investment of surplus funds
- 7) Prepaid Expenses
- 8) Accrued Incomes

NET WORKING CAPITAL

In a general sense, the term working capital refers to the net working capital is the excess of current assets over current liabilities. Or say :

$\text{Net Working Capital} = \text{Current Assets} - \text{Current Liabilities}$

Net working capital may be positive or negative. When the current assets exceed the current liabilities, the working capital is positive and the negative working capital results when the current liabilities are more than the current assets.

Current Liabilities are those liabilities which are intended to be paid in the ordinary course of business within a short period of time normally one accounting year, out of the current assets or the income of the business. Examples of current liabilities are:

- 1) Bills payable.
- 2) Sundry Creditors or Accounts Payable,
- 3) Accrued or Outstanding Expenses.
- 4) Short-term loans, advances and deposits,
- 5) Dividends Payable.

6) Bank Overdraft.

7) Provision for taxation, if it does not amount to appropriation of profits.

The gross concept is sometimes preferred to the net concept of working capital for the following

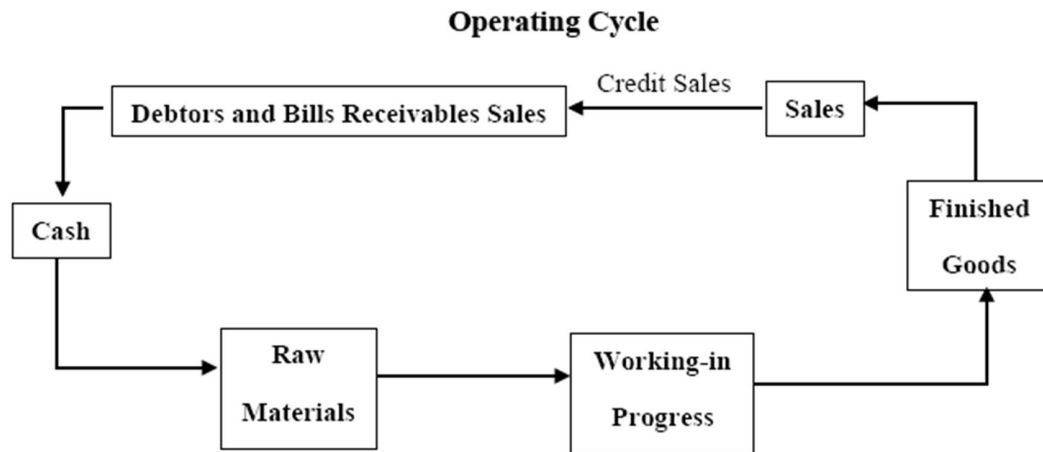
It enables the enterprise to provide correct amount of working capital at the right time.

2) Every management is more interested in the total current assets with which it has to operate than the sources from where it is made available.

3) The gross concept takes into consideration the fact that every increase in the funds of the enterprise would increase its working capital.

4) The gross concept of working capital is more useful in determining the rate of return on investments in working capital.

Another concept is "operating concept." The duration or time required to complete the sequence of events right from purchase of raw materials/goods for cash to the realization of sales in cash is called the operating cycle or working capital cycle.



The net duration of operating cycle is calculated by adding the number of days involved in the different stages of operation. This concept is more appropriate than others. According to this concept, the necessary liquid funds required by a firm for production, administration and selling can be determined for the whole year. If cash working capital requirements are known in advance, then non-cash current assets may be better managed. Now it is an important tool in projecting working capital requirements of an enterprise

TYPES OF WORKING CAPITAL

1.7.1 ON THE BASIS OF BALANCE SHEET

(i) Gross working Capital

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NET working capital

BASIS OF TIME

- (i)** Permanent working capital
- (ii)** Variable (Temporary) working capital
 - (a) Seasonal working capital
 - (b) Specific working capital

(i) PERMANENT WORKING CAPITAL : It means that minimum amount which is permanently blocked in the business and that cannot be converted into cash in the normal course of business. This amount is definitely required throughout the year on a continuous basis for maintaining the circulation of current assets. Tondon committee has identified this capital as core current assets. As the business grows the requirement of permanent working capital also increases due to increase in current assets. This portion of working capital is financed through long-term sources.

(ii) VARIABLE WORKING CAPITAL : The amount which is above the permanent level of working capital is called as temporary working capital. Such requirement of this part of working capital is financed from short-term funds, whenever needed. It is classified further:

(a) SEASONAL WORKING CAPITAL : Some of the industries like refrigerators and coolers may need extra fund to carry on production and to accumulate stock before the sale operations. It is of short term nature, it has to be financed from short term sources like bank loan etc.

SPECIFIC WORKING CAPITAL : Such capital is required to meet unforeseen contingencies like slumps and others. It is arranged to meet special exigencies

COMPONENTS OF WORKING CAPITAL

CURRENT ASSETS

Current assets are those which are either in the form of cash or can be converted into cash within a year. Current assets are important to business because they are the assets that are used to fund day-to-day operations and pay ongoing expenses. The main items that comprise current assets are :

Inventories : Inventories represent raw materials and components, work in progress and finished goods.

ii) **Trade Debtors :** Trade Debtors comprise credit sales to customers.

iii) **Prepaid Expenses :** These are those expenses, which have been paid for goods and services whose benefits have yet to be received.

iv) **Loan and Advances :** They represent loans and advances given by the firm to other firms for a short period of time.

v) **Investment :** These assets comprise short-term surplus funds invested in government securities, shares and short-term bonds.

vi) **Cash and Bank Balances :** These assets represent cash in hand and at bank, which are used for meeting operational requirements. One thing you can see here is that this current asset is purely liquid but non-productive.

1.8.2 CURRENT LIABILITIES

Current liabilities form part of working capital that represents obligations which the firm has to clear to the outside parties in a short-period, generally within a year, it includes:

i) **Sundry Creditors :** These liabilities stem out of purchase of raw materials on credit terms usually for a period of one to two months.

ii) **Bank Overdrafts :** These include withdrawals in excess of credit balance standing in the firm's current accounts with banks.

iii) Short-term Loans : Short-terms borrowings by the firm from banks and others form part of current liabilities as short-term loans.

iv) Provisions : These include provisions for taxations, proposed dividends and contingencies.

1. ADVANTAGES OF ADEQUATE WORKING CAPITAL

Inadequate working Capital is harmful for a business organisation. Adequate working capital is a source of energy to a business. The profitability of a business also depends upon planning of adequate working capital. Following are the advantages to a business enterprise if adequate working capital is available with the firm:

1. Adequate working capital enables a firm to pay its suppliers immediately.

2. It creates an environment of confidence, high morale, confidence and increases overall efficiency of the business

3. Adequate working capital increases the productivity and efficiency of fixed assets in the business. Adequacy of working capital affects the use of fixed assets.

4. Due to adequate working capital a firm can pay its debt in time and also its collection from debtors is relatively in time. Hence, it increases goodwill of the firm because adequate working capital provides better security.

5. Despite of sufficient profits, if a firm has inadequate working capital, then it cannot distribute appropriate and enough dividend. Hence, if there is adequate working capital a firm can distribute sufficient profits and it can bring satisfaction among shareholders.

6. Due to a better credit worthiness, a firm can easily fetch short-term loans and advances from banks for completing its seasonal and short period needs.

DISADVANTAGES FROM EXCESS WORKING CAPITAL

Excess working capital refers to idle funds which do not earn any profit for the firm. If there is idle funds with a firm following disadvantages are :

1. If management is not utilizing its current resources than it indicate inefficient management.

2. Excess working capital means, there is a defective credit policy and collection policy.

3. There may be more change of holding excess inventory, if there is excess working capital such situation result upon company's profitability and efficiency in using its resources.

4. In excess working capital results the low rate of return and it will causing dissatisfaction among shareholders

Due to idle funds the efficacy of firm to earn profits is affected, hence due to more interest liability, it reduces the amount of profits. Hence, it can be concluded that excess working capital reduces return on investment while adequate working capital increase the firm's profitability as well as g

SOURCES OF WORKING CAPITAL

A constant flow of working capital is an intrinsic component of a successful business. This is especially true considering the outflow that is a part and parcel of every cycle: salaries and wages need to be paid; raw

materials not be purchased and equipment need to be serviced; funds are needed for marketing, advertising, and other general overhead costs; reserves are required till the customers make their payment. Working capital is truly the lifeline for any company.

Sources of working capital can be classified into three parts.

1. Spontaneous Sources of Working Capital,

- 4. Short Term Sources Work
- 5. Long Term Sources of Working Capital

SPONTANEOUS SOURCES OF WORKING CAPITAL

The word 'spontaneous' itself explains that this source of working capital is readily or easily available to the business in the normal course of business affairs. The quantum and terms of this credit depend on the industry norms and the relationship between buyer and seller. These sources include trade credit allowed by the sundry creditors, credit from employees, and other trade-related credits. The biggest benefit of spontaneous sources as working capital is its 'effortless raising' and 'insignificant cost' compared to traditional ways of financing.

List of spontaneous sources of working capital

i. Trade credit

ii. Sundry creditors

iii. Bills payable

Notes payable

v. Accrued expenses

The cost factor and the quantum depends a lot on the terms of such credit viz. maximum credit limit, the period of credit, and discount on cash payment. Each supplier will have a maximum credit limit defined for the buyer depending on the

business capacity and creditworthiness of the buyer. Similarly, the credit period is defined say 30 days, 45 days etc. Discount on cash payment is allowed to the buyer if the payment immediately on buying the materials. This percentage of discount is an opportunity cost for the buyer.

SHORT TERM SOURCES OF WORKING CAPITAL

Short term sources can be further divided into internal and external sources of working capital finance.

The Short-term Internal Sources:

- i.** Tax provisions
- ii.** Dividend provisions

Short-term External Sources

- i.** Bank overdrafts,
- ii.** Cash credits,
- iii.** Trade deposits,
- Bills discounting,
- v.** Short-term loans or working capital loans,
- vi.** Inter-corporate loans,
- vii.** Commercial paper, etc.

Tax and dividend provisions are current liabilities and cannot be delayed. The fund that would have been used in paying these provisions act as working capital till the point these are not paid.

Short-term working capital finance availed from banks and financial institutions are costly compared to spontaneous and long-term sources in terms of rate of

interest but have great time flexibility. Due to time flexibility, the finance manager can use the funds and pay interest on the money which his business utilizes and can pay them anytime when cash is available.

Overall, in comparison to long-term sources where you have to hold funds even when not required, these facilities prove cheaper

LONG-TERM SOURCES OF WORKING CAPITAL

Long-term sources can also be divided into internal and external sources. Long-term internal sources of finance are retained profits and provision for depreciation whereas external sources are Share Capital, long-term loan, and debentures.

Long-term Internal Sources

i. Retained profits

ii. Provision for depreciation

Long-term External Sources

i. Share capital

ii. Long-term loan

iii. Debentures

Retained profits and accumulated depreciation are as good as funds available to the business without any explicit cost. These are the funds completely earned and owned by the business itself. They are utilized for expansion as well as working capital finance

. Long-term external sources of finance like share capital is a cheaper source of finance but is not commonly used for working capital finance.

Working capital can be classified as temporary working capital and permanent working capital. It is advisable to use long-term sources for permanent and short-term sources for temporary working capital requirements. This will optimize the working capital cost and enforce good working capital management practices.

Companies cannot rely only on limited sources for their working capital needs.

They need to tap multiple avenues. They also need to constantly evaluate what their needs are, through analysis of financial statements and financial ratios, and choose their working capital channels judiciously. This is an ongoing process, and

different routes are appropriate at different points in time. The trick is to choose the right alternative as per the situation.

DETERMINANTS OF WORKING CAPITAL : The factors influencing the working capital decisions of a firm may be classified as two groups, such as internal factors and external factors. The internal factors includes, nature of business size of business, firm's product policy, credit policy, dividend policy, and access to money and capital markets, growth and expansion of business etc. The external factors include business fluctuations, changes in the technology, infrastructural facilities, import policy and the taxation policy etc. These factors are discussed in brief in the following lines.

1. Internal Factors

1. Nature and size of the business The working capital requirements of a firm are basically influenced by the nature and size of the business. Size may be measured in terms of the scale of operations. A firm with larger scale of operations will need more working capital than a small firm. Similarly, the nature of the business - influence the working capital decisions.

Trading and financial firms have less investment in fixed assets. But require a large sum of money to be invested in working capital. Retail stores, business units require larger amount of working capital, where as, public utilities need less working capital and more funds to invest in fixed assets.

Firm's production policy:

The firm's production policy (manufacturing cycle) is an important factor to decide the working capital requirement of a firm. The production cycle starts with the purchase and use of raw material and completes with the production of finished goods. On the other hand production policy is uniform production policy or seasonal production policy etc., also influences the working capital decisions. Larger the manufacturing cycle and uniform production policy – larger will be the

requirement of working capital. The working capital requirement will be higher with varying production schedules in accordance with the changing demand

Firm's credit policy : The credit policy of a firm influences credit policy of working capital. A firm following liberal credit policy to all customers requires funds.

On the other hand, the firm adopting strict credit policy and grant credit facilities to few potential customers will require less amount of working capital.

4. Availability of credit :

The working capital requirements of a firm are also affected by credit terms granted by its suppliers – i.e. creditors. A firm will need less working capital if liberal credit terms are available to it. Similarly, the availability of credit from banks also influences the working capital needs of the firm. A firm, which can get bank credit easily on favorable conditions, will be operated with less working capital than a firm without such a facility.

Growth and expansion of business :

Working capital requirement of a business firm tend to increase in correspondence with growth in sales volume and fixed assets. A growing firm may need funds to invest in fixed assets in order to sustain its growing production and sales. This will, in turn, increase investment in current assets to support increased scale of operations. Thus, a growing firm needs additional funds continuously.

Profit margin and dividend policy:

The magnitude of working capital in a firm is dependent upon its profit margin and dividend policy. A high net profit margin contributes towards the working capital pool. To the extent the net profit has been earned in cash, it becomes a source of working capital. This depends upon the dividend policy of the firm. Distribution of high proportion of profits in the form of cash dividends results in a

drain on cash resources and thus reduces company's working capital to that extent. The working capital position of the firm is strengthened if the management follows conservative dividend policy and vice versa.

7. Operating efficiency of the firm

Operating efficiency means the optimum utilisation of a firm's resources at minimum cost. If a firm successfully controls operating cost, it will be able to improve net profit margin which, will, in turn, release greater funds for working capital purposes.

8. Co-ordinating activities in firm

The working capital requirements of a firm are depend upon the co-ordination between production and distribution activities. The greater and effective the co-ordinations, the pressure on the working capital will be minimized. In the absence of co-ordination, demand for working capital is reduced.

- I. **External Factors**
 1. **Business fluctuations** Most firms experience fluctuations in demand for their products and services. These business variations affect the working capital requirements. When there is an upward swing in the economy, sales will increase, correspondingly, the firm's investment in inventories and book debts will also increase.
- II. Under boom, additional investment in fixed assets may be made by some firms to increase their productive capacity. This act of the firm will require additional funds. On the other hand when, there is a decline in

- economy, sales will come down and consequently the conditions, the firm try to reduce their short-term borrowings. Similarly the
- III. seasonal fluctuations may also affect the requirement of working capital of a firm.

their increased working capital needs. When there is **Changes in the technology**

The technological changes and developments in the area of production can have immediate effects on the need for working capital. If the firm wish to install a new machine in the place of old system, the new system can utilise less expensive raw materials, the inventory needs may be reduced there by working capital needs.

. **Import policy** : Import policy of the Government may also effect the levels of working capital of a firmsince they have to arrange funds for importing goods at specified times

Infrastructural facilities: The firms may require additional funds to maintain the levels of inventory and other current assets, when there is a good infrastructural facility in the company like transportation and communications.

Taxation policy The tax policies of the Government will influence the working capital decisions. If the Government follows regressive taxation policy, i.e. imposing heavy tax burdens on business firms, they are left with very little profits for distribution and retention purpose. Consequently the firmhas to borrow additional funds to meet a liberalized tax policy, the pressure on working capital requirement is minimized. Thus the working capital requirements of a firm are influenced by the internal and external factors.

MEASUREMENT OF WORKING CAPITAL:

There are 3 methods for assessing the working capital requirement as explained below:

a) **Percent of Sales Method :**

Based on the past experience, some percentage of sale may be taken for determining the quantum of working capital.

b) **Regression Analysis Method**

c) The relationship between sales and working capital and its various components may be plotted on Scatter diagram and the average percentage of past 5 years may be ascertained. This average percentage of sales may be taken as working capital. Similar exercise may be carried out at the beginning of the year for assessing the working capital requirement. This method is suitable for simple as well as complex situations

d) **Operating Cycle Method :** As a first step, we have to compute the operating cycle as follows: i) Inventory period: $\text{Number of days consumption in stock} = I \div M/36$

IMPORTANCE OR ADVANTAGES OF ADEQUATE WORKING CAPITAL

Working capital is the life blood and nerve centre of a business. Just as circulation of blood is essential in the human body for maintaining life, working capital is very essential to maintain the smooth running of a business. No business can run successfully without an adequate amount of working capital. The main advantages of maintaining adequate amount of working capital are as follows

Solvency of the business: Adequate working capital helps in maintaining solvency of the business by providing uninterrupted flow of production.

2. Goodwill: Sufficient working capital enables a business concern to make prompt payments and hence helps in creating and maintaining goodwill.

3. Easy loans: A concern having adequate working capital, high solvency and good credit standing can arrange loans from banks and other on easy and favourable terms.

4. Cash discounts: Adequate working capital also enables a concern to avail cash discounts on the purchases and hence it reduces costs.

5. Regular supply of raw materials: Sufficient working capital ensures regular supply of raw materials and continuous production.

6. Regular payment of salaries, wages and other day-to-day commitments: A company which has ample working capital can make regular payment of salaries, wages and other day-to-day commitments which raises the morale of its employees, increases their efficiency, reduces wastages and costs and enhances production and profits.

7. Exploitation of favourable market conditions: Only concerns with adequate working capital can exploit favourable market conditions such as purchasing its requirements in bulk when the prices are lower and by holding its inventories for higher prices.

8. Ability to face crisis: Adequate working capital enables a concern to face business crisis in emergencies such as depression because during such periods, generally, there is much pressure on working capital.

9. Quick and regular return on investments: Every Investor wants a quick and regular return on his investments. Sufficiency of working capital enables a concern to pay quick and regular dividends to its investors as there may not be much pressure to plough back profits. This gains the confidence of its investors and creates a favourable market to raise additional funds i.e., the future.

10. High morale: Adequacy of working capital creates an environment of security, confidence, and high morale and creates overall efficiency in a business.

DISADVANTAGES OF REDUNDANT OR EXCESSIVE WORKING CAPITAL

1. Excessive Working Capital means ideal funds which earn no profits for the business and hence the business cannot earn a proper rate of return on its investments.
2. When there is a redundant working capital, it may lead to unnecessary purchasing and accumulation of inventories causing more chances of theft, waste and losses.
3. Excessive working capital implies excessive debtors and defective credit policy which may cause higher incidence of bad debts.
4. It may result into overall inefficiency in the organization.
5. When there is excessive working capital, relations with banks and other financial institutions may not be maintained.
6. Due to low rate of return on investments, the value of shares may also fall.
7. The redundant working capital gives rise to speculative transactions.

DISADVANTAGES OR DANGERS OF INADEQUATE WORKING CAPITAL

1. A concern which has inadequate working capital cannot pay its short-term liabilities in time. Thus, it will lose its reputation and shall not be able to get good credit facilities.
2. It cannot buy its requirements in bulk and cannot avail of discounts, etc.
3. It becomes difficult for the firm to exploit favourable market conditions and undertake profitable projects due to lack of working capital.
4. The firm cannot pay day-to-day expenses of its operations and it creates inefficiencies, increases costs and reduces the profits of the business.
5. It becomes impossible to utilize efficiently the fixed assets due to non-availability of liquid funds.
6. The rate of return on investments also falls with the shortage of working capital

WORKING CAPITAL CYCLE

Working Capital Cycle is also known as Operating cycle. Operating cycle is the total time gap between the purchase of raw material and the receipt from Debtors. The working capital estimation as per the method of operating cycle, is the most systematic and logical approach. In this case, the working capital estimation is made on the basis of analysis of each and every component of the working capital individually. As already discussed the working capital, required to sustain the level of planned operations, is determined by calculating all the individual components of current assets and current liabilities.

Working capital is needed till a firm gets cash on sale of finished products. It depends on two factors:

- i. Manufacturing cycle i.e. time required for converting the raw material into finished product; and
- ii. . Credit policy i.e. credit period given to Customers and credit period allowed by creditors. Thus, the sum total of these times is called an “Operating cycle” and it consists of the following six steps: i. Conversion of cash into raw materials. ii. Conversion of raw materials into work-in-process.
- iii. . Conversion of work-in-process into finished products.
- iv. Time for sale of finished goods—cash sales and credit sales.
- v. Time for realization from debtors and Bills receivables into cash.
- vi. Credit period allowed by creditors for credit purchase of raw materials, inventory and creditors for wages and overheads.

Principles of Working Capital Management Policy

Working capital management is crucial for ensuring a firm’s financial stability and smooth operations. Below are the key principles:

1. Balance Between Liquidity and Profitability:

- The primary principle of working capital management is maintaining an optimal balance between liquidity and profitability. A firm must ensure it has enough working capital to meet its short-term obligations while not holding excessive amounts that could otherwise be invested for higher returns.

2. Cost of Capital:

- Managing working capital involves balancing the cost of capital against the need for liquidity. If a firm borrows funds for working capital, it must consider the interest expense incurred. Similarly, retaining earnings for working capital results in an opportunity cost, as those funds could be used for other investments.

3. Cash Conversion Cycle:

- The firm should focus on minimizing the cash conversion cycle (CCC), which is the time taken for a business to convert its investments in inventory and other resources into cash flows from

sales. Shortening the CCC improves liquidity and working capital efficiency.

4. Optimal Inventory Management:

- Firms need to optimize their inventory levels to avoid excessive stock that ties up funds unnecessarily, while also preventing stockouts that could lead to lost sales. Efficient inventory management ensures that working capital is used effectively.

5. Receivables Management:

- A key aspect of working capital is managing accounts receivable. Firms must establish clear credit policies, monitor outstanding invoices, and reduce the risk of bad debts to maintain liquidity and minimize the cost of carrying receivables.

6. Payables Management:

- Firms should manage accounts payable efficiently by negotiating favorable credit terms with suppliers and maintaining a balance between paying on time and optimizing the use of credit terms. Delay in payments should be done without harming supplier relationships or incurring penalties.

7. Financing Policy:

- A firm's policy regarding financing working capital needs is essential. It must decide whether to use short-term or long-term financing. Short-term financing is generally more flexible, but long-term financing can provide stability and reduce the risk of liquidity crises.

8. Risk Management:

- Managing working capital should also include mitigating risks associated with liquidity, exchange rates, inflation, and credit. Firms need to have contingency plans in place to handle unexpected fluctuations in working capital needs.

Estimating Working Capital Requirements

Estimating working capital needs is a critical process for businesses to ensure they have sufficient resources to cover day-to-day operations. The following methods and factors should be considered:

1. Factors Influencing Working Capital Requirements:

- **Nature of the Business:** Industries like manufacturing typically need higher working capital due to large inventories, while service industries may need less.
- **Business Cycle:** The stage of the business cycle affects working capital needs. For example, during expansion or growth phases, a business may need more working capital.
- **Seasonality:** Seasonal businesses or those with fluctuating sales cycles require careful forecasting to adjust working capital needs during peak and off-peak periods.
- **Sales Growth:** A rise in sales typically leads to an increase in working capital requirements, as the business will need more inventory and possibly more receivables.
- **Credit Policies:** The more lenient the credit terms, the higher the accounts receivable, thus increasing working capital needs.
- **Operating Efficiency:** A firm that manages inventory efficiently or has faster receivables collection will need less working capital.

2. Methods to Estimate Working Capital Requirements:

- **Percentage of Sales Method:**
 - A simple method where working capital is estimated as a percentage of sales. The percentage is based on historical data or industry standards. It assumes that working capital is directly proportional to sales volume.
 - Formula:

$$\text{Working Capital} = \text{Sales} \times \text{Working Capital Ratio}$$

$$\text{Working Capital} = \text{Sales} \times \text{Working Capital Ratio}$$
- **Operating Cycle Method:**
 - The operating cycle measures the time taken to convert raw materials into cash. It involves assessing the period of inventory conversion, accounts receivable collection, and the settlement of accounts payable.

- Formula:

$$\text{Working Capital} = \text{Operating Cycle} \times \text{Daily Operating Expenses}$$

$$\text{Working Capital} = \text{Operating Cycle} \times \text{Daily Operating Expenses}$$
- **Current Ratio Method:**
 - The current ratio (current assets / current liabilities) can be used to estimate working capital needs. A ratio of 2:1 (current assets twice the current liabilities) is generally considered ideal.
 - Formula:

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$
- **Projection Based on Historical Data:**
 - Historical financial data can be used to estimate future working capital needs, taking into account trends in sales, receivables, and inventory.
 - This method often involves creating forecasts for future periods based on past experience, adjusting for expected changes in business conditions.

3. Steps for Estimating Working Capital:

- **Step 1:** Analyze historical trends in sales, inventory, accounts receivable, and accounts payable.
- **Step 2:** Forecast future sales and expenses, considering business growth, seasonality, and market conditions.
- **Step 3:** Estimate the changes in current assets (inventory, receivables) and current liabilities (payables) based on sales projections.
- **Step 4:** Calculate the working capital requirement using one of the methods above.
- **Step 5:** Compare the estimate against available funds and determine if any adjustments are needed (e.g., obtaining financing or adjusting credit policies).

4. Financing Working Capital:

- After estimating working capital needs, a business must assess how to finance these requirements. This could involve a mix of short-term and long-term debt, equity financing, or retained earnings, depending on the company's financial strategy.

By following these methods and principles, firms can effectively manage their working capital, ensuring smooth operations while minimizing costs and risks.

Unit 02

Accounts Receivables Management: Meaning, Cost of Maintain Receivables, Factors influencing size of Receivables. Formation and Execution of Credit Policy (Credit Standard, Credit Period, Cash Discount, Collection Efforts)

RECEIVABLES MANAGEMENT:

A firm should use this information in preparing categories of customers according to their creditworthiness and default risk. This would be an important input for the financial or credit manager in formulating its credit standards. Trade credit happens when a firm sells its products or services on credit and does not receive cash immediately. It is an essential marketing tool, acting as a bridge for the movement of goods through the production and distribution stages to customers. Trade credit creates accounts receivable or trade debtors that the firm is expected to collect in the near future. A credit sale involves an element of risk since the cash payments are yet to be received.

MEANING AND NATURE OF RECEIVABLES

Receivables mean the book debts or debtors and these arise, if the goods are sold on credit which may be converted to cash after the credit period. Debtors form about 30% of current assets in India. Debt involves an element of risk and bad debts also. Hence, it calls for careful analysis and proper management. The goal of receivables management is to maximize the value of the firm by achieving a trade-off between risk and profitability. For this purpose, a finance manager has:

(i) To obtain optimum (non-maximum) value of sales;

(ii) To control the cost of receivables, cost of collection, administrative expenses, bad debts and opportunity cost of funds blocked in the receivables.

(iii) To maintain the debtors at minimum according to the credit policy offered to customers.

(iv) To offer cash discounts suitably depending on the cost of receivables, bank rate of interest and opportunity cost of funds blocked in the receivables

OBJECTIVE OF RECEIVABLE MANAGEMENT

Accounts receivable management means managing the credit sales of the firm.

The basic objective of accounts receivable management is to collect the funds due and to help the management in meeting their cash flow requirements. An effective accounts receivable management in achieving the desired cash flow through the timely collection of outstanding debts.

d. To offer cash discounts suitably depending on the cost of receivables, bank rate of interest and opportunity cost of funds blocked in the receivables.

COSTS OF MAINTAINING RECEIVABLES

The costs with respect to maintenance of receivables can be identified as follows

Capital costs - Maintenance of accounts receivable results in blocking of the firm's financial resources in them. This is because there is a time lag between the sale of goods to customers and the payments by them. The firm has, therefore, to arrange for additional funds to meet its own obligations, such as payment to employees, suppliers of raw materials, etc., while awaiting for payments from its customers.

2. Additional funds may either be raised from outside or out of profits retained in the business. In first the case, the firm has to pay interest to the outsider while in the latter case, there is an opportunity cost to the firm, i.e., the money which the firm could have earned otherwise by investing the funds elsewhere.

The firm has to incur additional administrative costs for maintaining accounts receivable in the form of salaries to the staff kept for maintaining accounting records relating to customers, cost of conducting investigation regarding potential credit customers to determine their credit worthiness etc.

3. Collection costs - The firm has to incur costs for collecting the payments from its credit customers. Sometimes, additional steps may have to be taken to recover money from defaulting customers.

Defaulting costs - Sometimes after making all serious efforts to collect money from defaulting customers, the firm may not be able to recover the over dues because of the inability of the customers. Such debts are treated as bad debts and have to be written off since they cannot be realized.

BENEFITS OF MAINTAINING RECEIVABLES

a. Increase in Sales - Except a few monopolistic firms, most of the firms are required to sell goods on credit, either because of trade customers or other conditions. The sales can further be increased by liberalizing the credit terms. This will attract more customers to the firm resulting in higher sales and growth of the firm.

b. Increase in Profits - Increase in sales will help the firm

(i) to easily recover the fixed expenses and attaining the break-even level, and

(ii) increase the operating profit of the firm. In a normal situation, there is a positive relation between the sales volume and the profit.

c. Extra Profit - Sometimes, the firms make the credit sales at a price which is higher than the usual cash selling price. This brings an opportunity to the firm to make extra profit over and above the normal profit.

FACTORS AFFECTING THE SIZE OF RECEIVABLES

The size of accounts receivable is determined by a number of factors. Some of the important factors are as follows

1. Level of sales - This is the most important factor in determining the size of accounts receivable. Generally in the same industry, a firm having a large volume of sales will be having a larger level of receivables as compared to a firm with a small volume of sales. Sales level can also be used for forecasting change in accounts receivable.
2. For example, if a firm predicts that there will be an increase of 20% in its credit sales for the next period, it can be expected that there will also be a 20% increase in the level of receivables

Credit policies - The term credit policy refers to those decision variables that influence the amount of trade credit, i.e., the investment in receivables. These variables include the quantity of trade accounts to be accepted, the length of the credit period to be extended, the cash discount to be given and any special terms to be offered depending upon particular circumstances of the firm and the customer. A firm's credit policy, as a matter of fact, determines the amount of risk the firm is willing to undertake in its sales activities. If a firm has a lenient or a relatively liberal credit policy, it will experience a higher level of receivables as compared to a firm with a more rigid or stringent credit policy. This is because of the two reasons:

1. A lenient credit policy encourages even the financially strong customers to make delays in payment resulting in increasing the size of the accounts receivables.
- ii. Lenient credit policy will result in greater defaults in payments by financially weak customers thus resulting in increasing the size of receivables.

Terms of trade - The size of the receivables is also affected by terms of trade (or credit terms) offered by the firm. The two important components of the credit terms are (i) Credit period and (ii) Cash discount.

CREDIT PERIOD: The term credit period refers to the time duration for which credit is extended to the customers. It is generally expressed in terms of "Net days". For example, if a firm's credit terms are "Net 15", it means the customers are expected to pay within 15 days from the date of credit sale.

CASH DISCOUNT: Most firms offer cash discount to their customers for encouraging them to pay their dues before the expiry of the credit period. The terms of cash discount indicate the rate of discount as well as the period for which the discount has been offered. For example, if the terms of cash discount are changed from "Net 30" to "2/10 Net 30", it means the credit period is of 30 days but in case customer pays in 10 days, he would get 2% discount on the amount due by him. Of course, allowing cash discount results in a loss to the firm because of recovery of fewer amounts than what is due from the customer but it reduces the volume of receivables and puts extra funds at the disposal of the firm for alternative profitable investment. The amount of loss thus suffered is, therefore, compensated by the income otherwise earned by the firm.

OPTIMUM SIZE OF RECEIVABLES

The optimum investment in receivables will be at a level where there is a trade-off between costs and profitability. When the firm resorts to a liberal credit policy, the profitability of the firm increases on account of higher sales. However, such a policy results in increased investment in receivables, increased chances of bad debts and more collection costs. The total investment in receivables increases and, thus, the problem of liquidity is created. On the other hand, a stringent credit policy reduces the profitability but increases the liquidity of the firm. Thus, optimum credit policy occurs at a point where there is a “Trade-off” between liquidity and profitability.

COSTS OF MAINTAINING RECEIVABLES

The costs associated with the maintenance of receivables can be categorized as follows:

1. **Capital Costs:** Maintenance of accounts receivable ties up the firm's financial resources. This occurs because there is a time lag between the sale of goods to customers and their payments. The firm may need additional funds to meet obligations such as employee salaries and payments to suppliers while awaiting customer payments. These funds could be raised from external sources, incurring interest costs, or from retained profits, resulting in an opportunity cost where the firm could have otherwise invested these funds for returns.
2. **Administrative Costs:** Additional administrative expenses are incurred to manage accounts receivable, such as salaries for staff maintaining customer records, conducting creditworthiness investigations for potential customers, and managing billing and payment processes.

3. **Collection Costs:** The firm incurs costs in collecting payments from credit customers. In cases of non-payment, the firm may need to take additional steps to recover outstanding debts, including employing collection agencies or legal actions.
4. **Defaulting Costs:** Sometimes, despite all efforts to collect debts, the firm may be unable to recover payments due to the financial inability of customers. These uncollectible amounts are written off as bad debts, contributing to the overall cost of maintaining receivables.

DETERMINANTS OF CREDIT POLICY The following are the aspects of credit policy:

1. Level of credit sales required to optimize the profit.
 2. Credit period i.e. duration of credit, whether it may be 15 days or 30 or 45 days etc.
 3. Cash discount, discount period and seasonal offers
 - . 4. Credit standard of a customer :
- 5 C's of credit :
- a. Character of the customer i.e. willingness to pay.
 - b. Capacity—ability to pay.
 - c. Capital—financial resources of a customer.
 - d. Conditions—special conditions for extension of credit to doubtful customers and prevailing economic and market conditions and;
 - e. Collateral security.

5. Profits.
6. Market and economic conditions.
7. Collection policy.
8. Paying habits of customers
- . 9. Billing efficiency, record-keeping etc.
10. Grant of credit— —size and age of receivables

OPTIMUM CREDIT POLICY

A firm should establish receivables policies after carefully considering both benefits and costs of different policies. These policies relate to:

- (i) Credit Standards,
- (ii) Credit Terms, and
- (iii) Collection Procedures. Each of these have been explained below:

The term credit standards represent the basic criteria for extension of credit to customers. The levels of sales and receivables are likely to be high if the credit standards are relatively loose, as compared to a situation when they are relatively tight. The firm's credit standards are generally determined by the five "C's". Character, Capacity, Capital, Collateral and Conditions. Character denotes the integrity of the customer, i.e. his willingness to pay for the goods purchased. Capacity denotes his ability to manage the business. Capital denotes his financial soundness. Collateral refers to the assets which the customer can offer by way of security. Conditions refer to the impact of general economic trends on the firm or to special developments in certain areas of economy that may affect the customer's ability to meet his obligations.

Information about the five C's can be collected both from internal as well as external sources. Internal sources include the firm's previous experience with the customer supplemented by its own well developed information system. External resources include customer's references, trade associations and credit rating organisations such as Don & Brad Street Inc. of USA. This Organisation has more than hundred years experience in the field of credit reporting. It publishes a reference book six times a year containing information about important business firms region wise. It also supplies credit reports about different firms on request.

An individual firm can translate its credit information into risk classes or groups according to the probability of loss associated with each class. On the basis of this information, the firm can decide whether it will be advisable for it to extend credit to a particular class of customers.

ii. Credit terms - It refers to the terms under which a firm sells goods on credit to its customers. As stated earlier, the two components of the credit terms are (a) Credit Period and (b) Cash Discount. The approach to be adopted by the firm in respect of each of these components is discussed below

- (a) Credit period - Extending the credit period stimulates sales but increases the cost on account of more tying up of funds in receivables. Similarly, shortening the credit period reduces the profit on account of reduced sales, but also reduces the cost of tying up of funds in receivables. Determining the optimal credit period, therefore, involves locating the period where the marginal profits on increased sales are exactly offset by the cost of carrying the higher amount of accounts receivable.

- (b)) Cash discount - The effect of allowing cash discount can also be analysed on the same pattern as that of the credit period. Attractive cash discount terms reduce the average collection period resulting in reduced investment in accounts receivable. Thus, there is a saving in capital costs. On the other hand, cash discount itself is a loss to the firm. Optimal discount is established at the point where the cost and benefit are exactly offsetting.
- (c) Collection procedures - A stringent collection procedure is expensive for the firm because of high out-of-pocket costs and loss of goodwill of the firm among its customers. However, it minimizes the loss on account of bad debts as well as increases savings in terms of lower capital costs on account of reduction in the size of receivables. A balance has therefore to be struck between the costs and benefits of different collection procedures or policies.

CREDIT EVALUATION OF CUSTOMER

Credit evaluation of the customer involves the following 5 stages i.

Gathering credit information of the customer through

- a. financial statements of a firm,
- b. bank references,
- c. references from Trade and Chamber of Commerce,
- d. reports of credit rating agencies
- , e. credit bureau reports,
- f. firm's own records (Past experience),
- g. other sources such as trade journals, Income-tax returns, wealth tax returns, sales tax returns, Court cases, Gazette notifications etc

Credit analysis - After gathering the above information about the customer, the credit- worthiness of the applicant is to be analyzed by a detailed study of 5 C's of credit as mentioned above.

Credit decision - After the credit analysis, the next step is the decision to extend the credit facility to potential customer. If the analysis of the applicant is not upto the standard, he may be offered cash on delivery (COD) terms even by extending trade discount, if necessary, instead of rejecting the credit to the customer.

Credit limit - If the decision is to extend the credit facility to the potential customer, a limit may be prescribed by the financial manager, say, Rs. 25,000 or Rs. 1,00,000 or so, depending upon the credit analysis and credit-worthiness of the customer.

Collection procedure - A suitable and clear-cut collection procedure is to be established by a firm and the same is to be intimated to every customer while granting credit facility. Cash discounts may also be offered for the early payment of dues. This facilitates faster recovery.

OPTIMUM CREDIT POLICY: A MARGINAL COST-BENEFIT ANALYSIS

The firm's operating profit is maximized when total cost is minimized for a given level of revenue. Credit policy at point *A* in Figure represents the maximum operating profit (since total cost is minimum). But it is not necessarily the optimum credit policy. Optimum credit policy is one which maximizes the firm's value. The value of the firm is maximized when the incremental or marginal rate of return of an investment is equal to the incremental or marginal cost of funds used to finance the investment. The incremental rate of return can be calculated as incremental operating profit divided by the incremental investment in receivable. The incremental cost of funds is the rate of return required by the suppliers of funds, given the risk of investment in accounts receivable. Note that the required rate of return is not equal to the borrowing rate. Higher the risk of investment, higher the

required rate of return. As the firm loosens its credit policy, its investment in accounts receivable becomes more risky because of increase

in slow-paying and defaulting accounts. Thus the required rate of return is an upward sloping curve.

In sum, we may state that the goal of the firm's credit policy is to maximize the value of the firm. To achieve this goal, the evaluation of investment in accounts receivable should involve the following four steps:

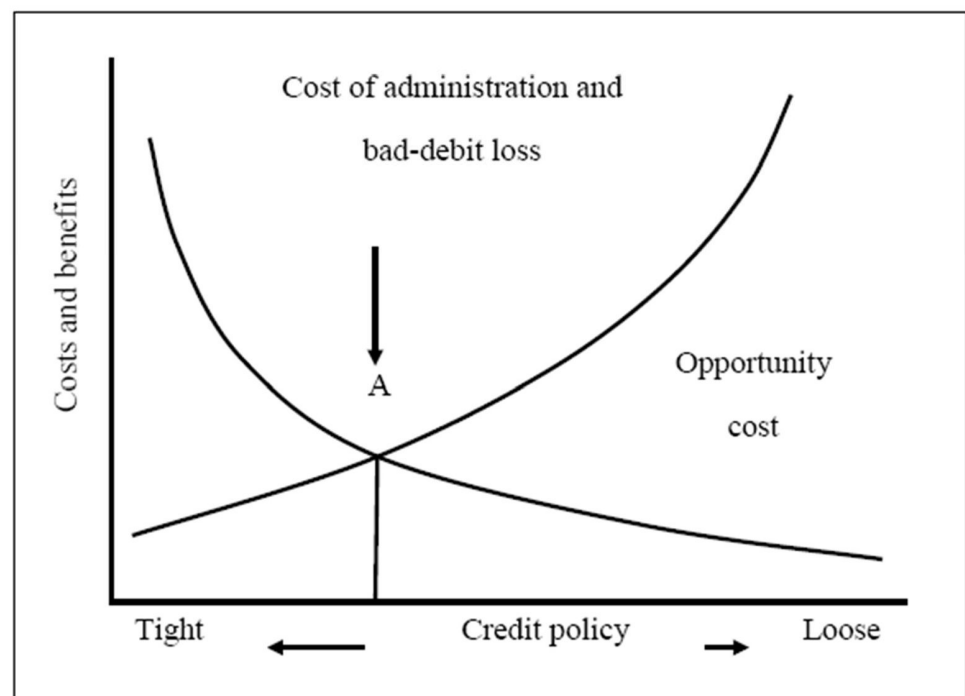


Figure Costs of Credit Policy

Figure Costs of Credit Policy

- Estimation of incremental operating profit.
- Estimation of incremental investment in accounts receivable.

- Estimation of the incremental rate of return of investment.
- Comparison of the incremental rate of return with the required rate of return.

Unit 03 MANAGEMENT OF CASH

Management of Cash-Motives of holding Cash, Managing Cash Flows, Cash Management Models, Investment of Surplus Funds, Calculating operating cycle.

Cash is the medium of exchange on the common purchasing power and which is the most important component of working capital. It includes coins, currency, cheques held by the firm and the balances in its bank accounts. Sometimes near-cash items also are included.' Cash is the basic input required to keep the firm running on a continuous basis. At the same time it is the ultimate output expected to be realized by selling goods and services A firm should hold sufficient cash, neither more, not less.

An excessive cash remains idle which simply increases the cost without contributing anything towards the profitability of the firm and in the opposite case, trading and/ or manufacturing operation will be disrupted. only that, it largely upholds, under given condition, the quantum of other ingredients of working capital, viz., inventories and debtors, that may be needed for a given scale and type of operation. Cash is, no doubt, a most important asset and that is why a firm wants to get hold of it in the shortest time possible. In the absence of sufficient quantity of cash at the proper time, payment of bills including dividend and others may not have to be made.

MEANING AND NATURE OF CASH MEANING OF CASH :

Cash is one of the current assets of a business. It is needed at all times to keep the business going. A business concern should always keep sufficient cash for meeting its obligations. Any shortage of cash will hamper the operations of a concern and any excess of it will be unproductive. It is in this context that cash management has assumed much importance.

NATURE OF CASH :

Cash itself does not produce goods or services. It is used as a medium to acquire other assets. It is the other assets which are used in manufacturing goods or providing services. The idle cash can be deposited in bank to earn interest. There remains a gap between cash inflows and cash outflows. Sometimes cash receipts are more than the payments or it may be vice-versa at another time

MEANING AND SIGNIFICANCE OF CASH MANAGEMENT MEANING OF CASH MANAGEMENT : Cash management is one of the key areas of working capital management.

Cash is the most liquid current assets. Cash is the common denominator to which all current assets can be reduced because the other major liquid assets, i.e. receivable and inventory get eventually converted into cash. This underlines the importance of cash management.

The term "Cash" with reference to management of cash is used in two ways. In a narrow sense cash refers to coins, currency, cheques, drafts and deposits in banks. The broader view of cash includes near cash assets such as marketable securities and time deposits in banks. The reason why these near cash assets are included in cash is that they can readily be converted into cash. Usually, excess cash is invested in marketable securities as it contributes to profitability. Cash is one of the most important components of current assets. Every firm should have adequate cash, neither more nor less. Inadequate cash will lead to production interruptions, while excessive cash remains idle and will impair profitability. It is interesting to note that cash management involves the three following factors

: (i) Ascertainment of the minimum cash balance; (ii) Proper arrangement to be made for collection and payment of cash in such a way so that minimum balance can be maintained; and

(iv) Surplus cash to be invested in temporary investments or to be invested in fixed assets. Similarly, cash is not productive directly like other assets, viz., it is sterile. For example, fixed assets are acquired for the purpose of earning revenue. Accounts receivables are generated by granting credit to customers etc.

(v) SIGNIFICANCE OF CASH MANAGEMENT

(vi) 1. Cash planning - Cash is the most important as well as the least unproductive of all current assets. Though, it is necessary to meet the firm's obligations, yet idle cash earns nothing. Therefore, it is essential to have sound cash planning neither excess nor inadequate. Cash planning is a

technique to plan and control the use of cash. A project cash flow statement may be prepared, based on the present business operations and anticipated future activities.

- (vii) 2. Management of cash flows - This is another important aspect of cash management. Synchronization between cash inflows and cash outflows rarely happens. Sometimes, the cash inflows will be more than outflows because of receipts from debtors, and cash sales in huge amounts. At other times, cash outflows exceed inflows due to payment of taxes, interest and dividends etc. Hence, the cash flows should be managed for better cash management.
- (viii) 3. Maintaining optimum cash balance - Every firm should maintain optimum cash balance. The management should also consider the factors determining and influencing the cash balances at various point of time. The cost of excess cash and danger of inadequate cash should be matched to determine the optimum level of cash balances.
- (ix) 4. Investment of excess cash - The firm has to invest the excess or idle funds in short term securities or investments to earn profits as idle funds earn nothing. This is one of the important aspects of management of cash. Thus, the aim of cash management is to maintain adequate cash balances at one hand and to use excess cash in some profitable way on the other hand will impair profitability.

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FUNCTIONS OR REASONS FOR HOLDING CASH REASONS FOR HOLDING CASH :

The firm's needs for cash may be attributed to the following needs:

- 1 Transactions reason,
- 2 Precautionary reason and
- 3 .Speculative reason
- 4 Compensation reason

TRANSACTIONS REASON

This reason refers to the holding of cash, to meet routine cash requirements in the ordinary course of business. A firm enters into a number of transactions which requires cash payment. For example, purchase of materials, payment of wages, salaries, taxes, interest etc. Similarly, a firm receives cash from cash sales, collections from debtors, return on investments etc. But the cash inflows and cash outflows do not perfectly synchronize. Sometimes, cash receipts are more than payments while at other times payments exceed receipts. The firm must have to maintain sufficient (funds) cash balance if the payments are more than receipts. Thus, the transactions reason refers to the holding of cash to meet expected obligations whose timing is not perfectly matched with cash receipts. Though, a large portion of cash held for transactions reason is in the form of cash, a part of it may be invested in marketable securities whose maturity conform to the timing of expected payments such as dividends, taxes etc.

Precautionary cash refers to the cash a firm holds to address unforeseen contingencies and unexpected situations. While cash flows (inflows and outflows) can be estimated, variations may occur, necessitating the maintenance of such balances.

1. Purpose:

- To meet unanticipated needs, such as strikes, sudden increases in raw material costs, or other unexpected financial demands.
- Acts as a safeguard to prevent the firm from defaulting on its obligations.

2. Nature:

- Cash held for precautionary purposes is often idle and does not directly contribute to the firm's productivity.
- To mitigate this, firms invest precautionary cash in **short-term, low-risk marketable securities** to earn returns while maintaining liquidity.

3. Determinants of Precautionary Cash Balances:

- **Predictability of Cash Flows:**
 - When cash flows are unpredictable, firms require larger precautionary balances.
 - Predictable cash flows reduce the need for such reserves.
- **Availability of Short-Term Credit:**
 - Firms with access to short-term borrowing facilities at short notice require smaller precautionary balances.
 - Conversely, limited borrowing options necessitate higher reserves.

4. Dual Role:

- Precautionary balances ensure liquidity for emergencies.
- When invested in marketable securities, they also contribute marginally to profitability.

Benefits of Precautionary Cash:

- Provides financial security during unexpected events.
- Reduces the risk of liquidity crises.

- Improves the firm's ability to operate smoothly even during unforeseen disruptions.

Drawbacks:

- Idle cash does not generate significant returns unless invested effectively.
- Excessive precautionary balances can lead to opportunity costs by diverting funds from potentially higher-yield investments.

Firms must strike a balance between maintaining sufficient precautionary cash and utilizing excess funds efficiently for investments or business growth.

Speculative Reason for Holding Cash

The speculative motive involves maintaining cash reserves to take advantage of profitable opportunities that may arise unexpectedly. These opportunities are uncertain and cannot be precisely predicted, making such transactions speculative in nature.

1. Purpose:

- To enable the firm to act swiftly on **profitable investment opportunities** as they arise.
- To capitalize on potential price changes in materials, securities, or other assets.

2. Examples of Speculative Uses:

- **Material Purchases:**
If the firm expects a decline in material prices, it may delay purchases and hold cash to buy at a lower price later.
- **Securities Investments:**
Anticipating a drop in interest rates, the firm may retain cash to buy securities at more favorable terms in the future.

3. Unpredictability:

- Speculative opportunities do not occur regularly or systematically.
- Firms cannot accurately forecast such opportunities, making them inherently risky.

4. Rare Practice:

- Most firms do not specifically hold cash for speculative purposes.

- The speculative use of cash is usually a secondary consideration after meeting precautionary and transactional cash requirements.
-

Advantages of Speculative Cash Balances

- Enables the firm to seize unexpected opportunities for cost savings or profit generation.
- Provides flexibility to adapt to favorable market conditions.

Disadvantages of Speculative Cash Balances

- High risk due to the unpredictability of market movements.
 - Idle cash awaiting speculative opportunities could lead to **opportunity costs** if not utilized effectively.
-

While speculative cash holdings are uncommon as a primary motive, firms that can anticipate market trends with a reasonable degree of accuracy may use this approach to enhance profitability. However, this requires a careful balance to avoid undue risk.

Compensation Reason for Holding Cash

The compensation reason involves holding cash to meet the minimum balance requirements set by banks and financial institutions. This balance is necessary to **compensate** the bank for providing various services and loans, such as **cheque clearance**, **fund transfers**, and **credit facilities**.

1. Purpose:

- To maintain a minimum balance in a firm's bank account, which is not available for transactions.
- To compensate the bank for offering services and loans that may incur administrative or operational costs for the bank.

2. Services Covered:

- **Cheque and Draft Clearance:** Banks provide the service of clearing payments for cheques or drafts.
- **Fund Transfers:** Banks facilitate transferring funds between accounts or different financial institutions.
- **Credit Facilities:** Banks may offer loans or credit lines to firms, often tied to a minimum cash balance requirement.

3. How It Works:

- Banks require businesses to maintain a **compensating balance** as part of the agreement for accessing certain services or loans.
- The balance is typically **non-transactional** and cannot be used for regular business activities.
- The bank uses the balance to earn interest or generate returns, offsetting the cost of providing services and credit.

4. Loan Agreements:

- In certain loan agreements, a firm may be required to hold a compensating balance as part of the **loan conditions**.
- This balance ensures the firm has access to credit when needed, especially during periods when credit supply is restricted or interest rates rise.

Advantages of Compensatory Cash Balances

- **Access to Banking Services:** Helps ensure the business continues to receive banking services, including credit facilities, without interruption.
- **Securing Loans:** Required to secure loans or lines of credit with banks, ensuring liquidity in times of need.

Disadvantages of Compensatory Cash Balances

- **Idle Funds:** The cash in the compensating balance is not available for the firm to use in operations or other investment opportunities.
 - **Opportunity Cost:** The firm loses out on the potential return from investing the idle cash elsewhere.
-

Conclusion

The **compensation reason** for holding cash balances is crucial for maintaining business operations with banks. It ensures continuous access to essential banking services, including credit facilities, but may also lead to the firm holding idle cash that could otherwise be used more profitably. Among the reasons for holding cash, the **transaction** and **compensation** motives are typically the most important for businesses.

Cash is the lifeblood of a business firm; it is needed to acquire supplies, resources, equipment, and other assets used in generating the products and services provided by the firm. It is also needed to pay wages and salaries to workers and managers, taxes to governments, interest and principal to creditors, and dividends to shareholders. More fundamentally, cash is the medium of exchange which allows management to carry on the various activities of the business firm from day to day. As long as the firm has the cash to meet these obligations, financial failure is improbable. Without cash, or at least access to it, bankruptcy becomes a grim possibility. Such is the emerging view of modern corporate cash management. On the other hand, marketable securities come in many forms and will be discussed later, but their main characteristic is that they represent "near cash" in that they may be readily sold. Hence marketable securities serve as a back up pool of liquidity that provides cash quickly when needed. Marketable security also provides a short-term investment

outlet for excess cash and is also useful for meeting planned outflows of funds.

MOTIVES FOR HOLDING CASH AND MARKETABLE SECURITIES:

Cash and short-term, interest-bearing investments, (marketable securities) are the firm's least productive assets. They are not required in producing goods or services, unlike the firm's fixed assets, they are not part of the process of selling as are inventory and accounts receivable. When firms hold cash in currency or in noninterest-bearing accounts, they obtain no direct return on their investment. Even if the cash is temporarily invested in marketable securities, its return is much less than the return on other assets held by the firm. So why hold cash or marketable securities at all? Couldn't the firm's resources be better deployed elsewhere.

Despite the seemingly low returns, there are several good reasons why firms hold cash and marketable securities. It is useful to think of the firm's portfolio of cash and marketable securities as comprised of three parts with each part addressing a particular reason for holding these assets.

Cash for Transactions: One very important reason for holding cash in the form of non-interest-bearing currency and deposits is transactions demand. Since debts are settled via the exchange of cash, the firm must hold some cash in the bank to pay suppliers and some currency to make change if it makes sales for cash.

Cash and Near-cash Assets as Hedges

Unfortunately, the firm's future cash needs for transactions purposes are often quite uncertain; emergencies may arise for which the firm needs immediate cash. The firm must hedge against the possibility of these unexpected needs. Several types of hedges are possible. For example, the

firm can arrange to be able to borrow from its bank on short notice should funds suddenly be needed. Another approach is to hold extra cash and near-cash assets beyond what would be needed for transactions purposes. By "near-cash assets," we mean interest-earning marketable assets that have very short maturities (a few days or less), and thus can be liquidated to provide funds on short notice with very little risk of loss.

Clearly, the more of this total hedging reserve held in near-cash assets and the less held in cash, the greater the interest earned. However, there is a trade-off between this interest revenue and the transactions costs involved in purchasing and selling such near-cash assets. These transactions costs have a fixed cost component; the firm bears these fixed costs when it buys or sells these assets regardless of the size of investment. Thus, whether it is economical to invest part or all of the hedging reserve in near-cash assets depends on the amount of the reserve. Firms that keep smaller reserves (because their transactions needs are either smaller or more certain) are more likely to hold these reserves in cash, while firms with larger reserves keep them in near-cash assets.

Temporary Investments

Many firms experience some seasonality in sales. Often, there will be times during the year when such firms have excess cash that will be needed later in the year. Firms in this situation have several choices. One alternative is to pay out the excess cash to its security holders when this cash is available, and then issue new securities, later in the year when funding is needed.

However, the costs of issuing new securities usually make this a disadvantageous strategy. More commonly, firms will temporarily invest the cash in interest-earning marketable securities from the time the cash is available until the time it is needed. Proper planning and investment select can yield a reasonable return on such temporary investment. All of these are valid reasons for holding cash and marketable securities in response to

the needs and uncertainties faced by the firm. In fact, firms generally hold a surprisingly large portion of their assets in these forms, despite the disadvantage of low returns.

FACTORS DETERMINING THE CASH BALANCE

A firm has to maintain a minimum amount of cash for settling the dues in time. The cash is needed to purchase raw materials. A creditors, day to day expenses, dividend, etc. the test of liquidity of the firm is that it is able to meet various obligations in time.

Some cash will be needed for transaction needs an amount may be kept as a safety stock. An appropriate amount of cash balance to be maintained should be determined on the basis of past experience and future expectations. If a firm maintains less cash balance then its liquidity position will be weak. If higher cash balance is maintained then an opportunity to earn is lost. Thus a firm should maintain an optimum cash balance, neither a small nor a large cash balance. For this purpose the transaction costs and risk of too small a balance should be matched with the opportunity costs of too large a balance.

MANAGING THE CASH

Cash management has assumed importance because it is the most significant of all current assets.

Cash management deals with the following:

- Cash inflows and outflows

- Cash flows within the firm

- Cash balances held by the firm at a point of time

MANAGING CASH FLOWS

After estimating the cash flows, efforts should be made to adhere to the estimates of receipts and payments of cash. Cash management will be successful only if cash collections are accelerated and cash disbursement, as far as possible, are delayed. The following methods of cash management will help:

Methods of Accelerating Cash Inflow

Prompt Payment by Customer.

2. Quick Conversion of payment into cash.
3. Decentralized Collection.
4. Lock Box System.

Methods of Slowing Cash Outflows

1. Paying on Last Date.
2. Payment through Drafts.
3. Adjusting Payroll Funds.
4. Centralization of Payments.
5. Inter-bank transfer
6. Making use of float.

THE STRATEGIES FOR CASH MANAGEMENT

PROJECTION OF CASH FLOWS AND PLANNING

The cash planning and the projection of cash flows is determined with the help of cash budget. The cash budget is the most important tool in cash management. It is a device to help a firm to plan and control the use of cash. It is a statement showing the estimated cash inflows and cash outflows over the firm's planning horizon. In other words the net cash

position i.e., surplus or deficiency of a firm is highlighted by the cash budget from one budgeting period to another period.

DETERMINING OPTIMAL LEVEL OF CASH HOLDING IN THE COMPANY

One of the important responsibilities of a finance manager is to maintain sufficient cash balances to meet the current obligations of a company. Determining optimum level of cash balance is influenced by a tradeoff between risk and profitability. Every business enterprise holding cash balances for transaction purposes and to meet precautionary, speculative and compensative reasons. With the help of cash budget the finance manager predicts the inflows and outflows of cash during a particular period of time and thereby determines the cash requirements of the company. While determining the optimum level of cash balance (neither excess nor inadequate cash balances) the finance manager has to bring a tradeoff between the liquidity and profitability of the firm. The optimum level of cash balances of a company can be determined in various ways: They are a) Inventory model (Economic Order Quantity) to cash management

- b) Stochastic model
- c) Probability model
- d) The BAT Model

Inventory model (EOQ) to cash management:

Economic Order Quantity (EOQ) model is used in determination of optimal level of cash of a company. According to this model optimal level of cash balance is one at which cost of carrying the inventory of cash and cost of going to the market for satisfying cash requirements is minimum. The carrying cost of holding cash refers to the interest foregone on marketable

securities whereas cost of giving to the market means cost of liquidating marketable securities in cash.

Optimum level of cash balance can be determined as follows

Q = Where Q = Optimum level of cash inventory A = Total amount of transaction demand O = Average fixed cost of securing cash from the market (ordering cost of cash / securities) C = Cost of carrying cash inventory, i.e., interest rate on marketable securities for the period involved.

Assumptions: The model is based on the following assumptions:

- 1) The demand for cash, transactions costs of obtaining cash and the holding costs for a particular period are given and do not change during that period.
- 2) There is a constant demand for cash during the period under consideration.
- 3) Cash payments are predictable
- 4) Banks do not impose any restrictions on firms with respect of maintenance of minimum cash balances in the bank accounts.

B) The **Stochastic Model**, also known as the **Miller-Orr Model**, was developed to address the limitations of the Economic Order Quantity (EOQ) model in cash management. The primary assumption of this model is that cash flows are irregular and fluctuate randomly over time, forming a normal distribution as observed periods increase. This model is used to determine the optimal timing and size of transfers between a firm's cash account and its investment account (marketable securities).

1. Irregular Cash Flow:

- The model assumes that cash balances change randomly in size and direction over time. As the number of observations increases, the pattern of these changes tends to follow a **normal distribution**.
 - 2. **Control Limits:**
 - The model defines two key control limits:
 - **Upper Control Limit (UCL):** When the cash balance reaches this upper limit, the firm should transfer excess cash to the investment account (marketable securities).
 - **Lower Control Limit (LCL):** When the cash balance drops to this lower limit, the firm should liquidate some marketable securities to restore the cash balance back to the optimal level.
 - 3. **Optimal Cash Balance (O):**
 - The **target or optimal cash balance (O)** is the point around which cash fluctuations should ideally occur. This is the balance that minimizes the total costs of holding cash and making transfers.
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Operation of the Model

- **When Cash Reaches the Upper Limit (U):**
 - If the cash balance rises to the upper limit **U**, the firm should transfer an amount of cash equal to $U - O$ into marketable securities, reducing the cash balance back to the optimal point **O**.
 - **When Cash Reaches the Lower Limit (L):**
 - If the cash balance falls to the lower limit **L**, the firm should liquidate enough marketable securities to bring the cash balance back to the optimal point **O**.
-

Limitations of the Miller and Orr Model

While the Miller and Orr model provides a straightforward solution to manage irregular cash flows, it does come with several limitations:

1. **Accurate Data Collection:**

- One of the key challenges of this model is the need for accurate data on transfer costs, holding costs, the number of transfers, and expected average cash balances. Gathering and maintaining this data can be difficult and costly.
 - 2. **Management Time Costs:**
 - The model does not account for the time and effort required by financial managers to handle the transfers between cash and securities accounts. This administrative burden can be significant, especially for firms with high transaction volumes.
 - 3. **Short-Term Borrowings Not Considered:**
 - The model assumes that firms only use marketable securities to manage cash imbalances. It does not consider the possibility of **short-term borrowing** as an alternative to selling marketable securities when the cash balance reaches the lower limit. In practice, borrowing could be a more cost-effective option, particularly if interest rates are favorable.
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Conclusion

The **Miller and Orr Stochastic Model** is a useful tool for managing cash balances in situations where cash flows are irregular and unpredictable. By setting optimal control limits (upper and lower), businesses can manage their cash flows efficiently, reducing transaction and opportunity costs. However, the model's effectiveness is contingent on accurate data and consideration of other financial tools, such as short-term borrowings, which are not factored into this model.

Probability Model (William Beranek Model)

The **Probability Model** for cash management was developed by William Beranek as a way to address situations where cash flows are not entirely predictable (as in the case of the deterministic models) but also not completely irregular (as in the stochastic models). According to this model, cash flows can be predicted within a certain range, but they are subject to probabilistic variations. This approach provides a more realistic framework for firms that face uncertain cash flows, but where some level of predictability exists.

1. **Probabilistic Estimation:**

- The **finance manager** is responsible for estimating probable outcomes of **net cash flows**. These are based on prior knowledge, experience, and a statistical analysis of past cash flow data. The manager must assess the likelihood of different outcomes occurring during the planning period.

2. **Cash Flow Prediction:**

- The manager must estimate the **operating cash balance** for the given period (e.g., a week or a month) and predict the **expected net cash flow** at the end of the period. This prediction involves forecasting both the **inflows** and **outflows** during the period and assessing their probability distribution.

3. **Optimal Cash Balance:**

- The **optimal cash balance** at the start of the planning period is determined by considering the **probability distribution** of possible cash flows. The model helps calculate the optimal balance by factoring in potential cash shortages, the opportunity cost of holding cash balances, and the transaction costs involved.
-

Assumptions of the Probability Model

1. **Investment in Marketable Securities:**

- Cash is assumed to be invested in **marketable securities** at the end of each planning period (e.g., a week or a month). This ensures that idle cash is generating returns, reducing the opportunity cost of holding cash balances.

2. **Continuous Cash Inflows:**

- Cash inflows are assumed to occur continuously throughout the planning period, allowing for smoother management of cash and more predictable timing for future cash availability.

3. **Variable Cash Inflows:**

- Cash inflows are not uniform but vary in size. This variability means that the finance manager must estimate the potential range of inflows and their likelihood of occurrence.

4. **Partial Control Over Inflows:**

- The management of the firm has limited control over cash inflows, as they are influenced by factors such as sales and other external variables. Therefore, the manager can only estimate these inflows based on prior experience and statistical data.

5. **Sale of Marketable Securities:**

- Any sales of marketable securities or other short-term investments to cover cash shortages will occur at the end of the planning period, when the cash balance has been determined to be inadequate to meet the firm's needs.

Cost Considerations in the Probability Model

• **Cost of Cash Shortages:**

- This refers to the **cost incurred** when the firm runs out of cash and needs to borrow or liquidate assets in a hurry. Such costs could include penalties, lost opportunities, and the high interest rates typically charged on emergency borrowing.

• **Opportunity Cost of Holding Cash:**

- Holding excess cash (above the optimal balance) leads to **opportunity costs** because that cash could have been invested elsewhere to generate a return. The firm must balance the benefits of having cash readily available with the potential returns it could earn by investing that cash.

• **Transaction Costs:**

- This includes the costs associated with **buying or selling marketable securities** to manage cash balances. These costs can be minimized by optimizing the timing and size of transactions.
-

Model's Application

In practice, the **Probability Model** requires a finance manager to:

1. **Estimate Cash Flows:** Determine the likely inflows and outflows over the planning period and their associated probabilities.
 2. **Calculate Optimal Cash Balance:** Based on the distribution of potential cash flows, the manager computes the optimal starting balance, considering both the transaction costs and the opportunity costs of holding cash.
 3. **Manage Cash:** Continuously monitor actual cash flows during the period and adjust the cash balance by either investing excess cash in marketable securities or liquidating investments when cash is running low.
-

Limitations of the Probability Model

While the **Probability Model** provides a more nuanced approach to cash management than simpler deterministic models, it has some limitations:

1. **Data-Intensive:** It requires detailed, accurate data on cash inflows and outflows, and the ability to estimate the probability distributions accurately.
 2. **Uncertainty:** While the model accounts for probabilistic cash flows, there is always a degree of uncertainty in predictions, especially in volatile or unpredictable environments.
 3. **Limited Control Over Inflows:** The model assumes that cash inflows are partially uncontrollable, but in some cases, firms may have more influence over cash inflows than the model assumes.
-

Conclusion

The **Probability Model** is a more flexible approach to managing cash flows, suitable for firms that experience varying and somewhat predictable cash inflows. It provides a framework for determining the optimal cash balance by accounting for transaction costs, opportunity costs, and the likelihood of different cash flow outcomes. However, it requires accurate data and statistical analysis to be effective, and it assumes that the firm can invest or liquidate marketable securities at the end of each period.

The BAT Model (Baumol-Allais-Tobin Model)

The **Baumol-Allais-Tobin (BAT)** model is a widely used framework for analyzing cash management strategies in firms. It helps businesses optimize the amount of cash they should hold, balancing between transaction costs and opportunity costs.

Assumptions of the BAT Model

1. **Constant Cash Outflows and Inflows:** The firm's cash flows are predictable and constant over time. The net outflows are consistent, and the firm knows how much it needs to spend and receive each period.
2. **Transaction Costs:** There are transaction costs each time cash is replenished. These costs may include brokerage fees or other associated charges when selling marketable securities to convert them into cash.
3. **Opportunity Costs:** Holding cash comes with the opportunity cost of not investing that money in marketable securities, which could generate returns.
4. **Fixed Replenishment Period:** The firm replenishes its cash balance after a fixed period when it is expected to run out.

Impact of Varying the Cash Balance

- **Higher Cash Balance:**
 - If the firm maintains a higher cash balance (e.g., \$2.4 million), the cash will last longer (in this case, 4 weeks).

- The **average cash balance** increases to \$1.2 million, but it incurs **lower transaction costs** since the firm replenishes cash less frequently.
 - However, the opportunity cost of holding cash increases, as the firm forgoes the potential return from marketable securities.
 - **Lower Cash Balance:**
 - If the firm maintains a lower cash balance (e.g., \$600,000), the cash will run out more quickly (in this case, 1 week).
 - The **average cash balance** decreases to \$300,000, but the firm must replenish cash more frequently, incurring higher transaction costs.
 - Opportunity costs are lower as the firm holds less cash, allowing more funds to be invested in marketable securities.
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Trade-Offs in Cash Management

The BAT model highlights the trade-off between:

1. **Transaction Costs:** The more frequently cash is replenished, the higher the transaction costs (e.g., fees for selling securities or transferring funds).
2. **Opportunity Costs:** The more cash a firm holds, the higher the opportunity cost, as idle cash could have been invested in assets that generate returns.

Thus, the BAT model suggests that firms should find an optimal cash balance that minimizes these combined costs (transaction costs and opportunity costs).

Conclusion

The **Baumol-Allais-Tobin (BAT)** model provides a useful framework for businesses to determine the most efficient way to manage their cash balances. By balancing transaction costs with opportunity costs, firms can decide on the optimal amount of cash to hold, minimizing unnecessary costs and maximizing liquidity.

UNIT 04: MANAGEMENT OF INVENTORY

Inventory Management: Meaning and nature of Inventory, Purpose and benefits of Holding Inventory, Inventory Management Techniques – Determining Stock Levels and Safety Stocks, EOQ, VED and ABC Analysis, Just in time Inventory, Classification & Codification and Valuation of Inventories.

The role of capital is crucial in this increased pace of industrialization. The capital raised by a firm is invested in fixed assets and current assets for carrying on its activities. Inventory constitutes the largest portion of current

assets. As such, inventories are a vital element in the efforts of the firm to achieve desired goals.

The concept of inventory management has been one of the many analytical aspects of management. It involves optimization of resources available for holding stock of various materials. Excessive inventory leads to unnecessarily blockage of funds, resulting decreased profit. On the other hand, lack of inventory not only impairs the profitability but also results in interruption in production and causes inefficiencies. Often one is inclined to agree with the observation that "when you need money, look at your inventories, before you look at your banker." Even, if there is no shortage of funds in a business the financial manager has to participate actively in the formulation of inventory policies with a view to speeding inventory turnover ratio and maximizing return on investment.

MEANING OF INVENTORY AND INVENTORY MANAGEMENT:

Inventories are resources of any kind having an economic value

S.E. Bolten defines it as "The term 'Inventory' refers to the stockpile of the product, a firm is offering for sale and the components that make up the product.

" The Accounting Research and Terminology Bulletin defines the term inventory as "The aggregate of those items of tangible personal property which

- (a) are held for sale in the ordinary course of business,
- (b) are in the process of production for such sales, or
- (c) are to be currently consumed in the production of goods or services to be available for sale."

CIMA defines it as "The function of ensuring that sufficient goods are retained in stock to meet all requirements without carrying unnecessarily large stocks."

The following items are included in inventory:

1. Raw Materials : These are goods that have not yet been committed to production in a manufacturing firm i.e. stored for use in future production.
2. Works-in-Progress : This category includes those materials that have been committed to the production process but have not been completed at the end of a financial year. Thus, these are neither raw materials nor finished goods.
3. Finished Goods : These are completed products awaiting sale. For a trading concern inventory always means finished goods, while for a manufacturing firm they are the final output of the production process
4. Consumables and Stores : Loose tools, cotton, lubricant, oil, grease etc. which are required for running and maintenance of plant and machineries are called consumables and stores. Though these are not held for sale, but have significant importance.

The problems of managing inventories in manufacturing enterprises are relatively complex.

INVENTORY MANAGEMENT :

The area of inventory management covers the following individual phases: determining the size of inventory to be carried and lot sizes for new orders, establishing timing schedules and procedures, ascertaining safety levels, providing proper storage facilities, coordinating inventory

policies with sales and production, arranging the procurement and disbursement of materials, record keeping, assigning responsibilities for carrying out the inventory control functions and providing necessary reports for supervising the overall activity. Within these individual phases acquisition, Unit/physical control i.e. material handling and production related decision are made by persons within purchasing and production departments. The financial executive is only one of the persons in top management who is concerned with the levels and fluctuations of investment in inventories. He is concerned with any aspect of inventory management that is controllable from the stand point of reducing inventory costs and risks. This is also called value control controllable from the stand point of reducing inventory costs and risks. This is also called value control

As per Gordon B. Carson, "Inventory control refers to the process by which the investment in materials and parts carried in stock are regulated within pre-determined limits set in accordance with the inventory policy established by the management".

Thus, inventory management refers to a system which ensures the supply of required quantity and quality of inventory at the required time and at the same time prevents unnecessary investment in inventories.

OBJECTIVES OF INVENTORY MANAGEMENT

Reducing inventories without impairing operating efficiency frees working capital that can be effectively employed elsewhere. The aim of a sound inventory management system is to secure the best balance between "too much and too little." Too much inventory carries financial burden and too little reacts adversely on continuity of productions and competitive dynamics. The real problem is not the reduction of the size of the inventory as a whole but to secure a scientifically determined

balance between several items that make up the inventory. Thus, Inventory management should strike a balance between excess inventory and too little inventory. The primary objects of inventory management are

- I. to minimize wastage and losses of material in course of purchase, storage, handling and uses,
- II. II. to achieve maximum economy in purchasing and inventory holding,
- III. to make minimum investment in working capital by forecasting the demand and production in advance,
- IV. to ensure uninterrupted flow of materials of the right quality for continuous production,
- V. V. to provide better service to customers by maintaining an adequate inventory level.

BENEFITS OF HOLDING INVENTORY

Primarily, inventory is held for transaction purposes. Today's inventory is tomorrow's consumption. An enterprise cannot ensure uninterrupted production unless it maintains adequate inventory of raw materials. By holding inventories the firm is able to separate the processes of purchasing, producing and selling. By doing the separation of these functions, the firm realizes a number of specific benefits:

1. **Avoid Losses of Sale:** Inadequate inventory may disturb the production function and resulting the firm may not be in a position to deliver the goods within the scheduled time to its customers and it may lose customer forever. The ability of the firm to give quick service and to provide prompt delivery is closely tied to the proper management of inventory.

2. **Gaining Quantity Discounts:** If a firm is willing to maintain large inventory in selected product lines, it may be able to make bulk purchases of goods at heavy discount. Suppliers frequently offer a greatly reduced price if the firm orders double or triple of its normal order. By paying less for its goods, the firm can increase profits, as long as the costs of maintaining the inventories are less than the amount of the discount.

3. **Continuity in Production:** Inadequate inventory may cause production interruption and inefficiencies. It is very difficult to procure raw material whenever it is needed. If the firm has scheduled a long run and begins production, only due to shortage of a vital raw material, the production may be halted at considerable cost to the firm. So it is necessary to maintain an adequate level of inventory to continue the production process without any interruption.

4. **Low Ordering Cost:** Every time a firm places an order it incurs certain costs. The variable cost associated with individual orders can be reduced if the firm places a few large rather than numerous small orders.

5. **To Meet Contingencies:** Inventory is also held as a precaution or as a contingency for increase in lead time or consumption rate. This increase may be due to suppliers strike, labour strike, transporters strike, short supplies or bulk orders etc.

6. **Optimum Utilization of Resources:** In a manufacturing concern production planning can be done with an object to have optimum utilization of resources namely men, machines and materials. This objective can be achieved only if we hold sufficient inventory

FACTORS AFFECTING LEVEL OF INVENTORY

As stated above, a firm should maintain its inventory at reasonable level. There are different factors, which determine the level of inventory; the important among them are as follows.

1. Nature of the Product : The nature of the product greatly affects the quantity of inventory, like in case of perishable and fashion goods. It is not feasible to store large quantity. If the firm deals in such type of products for which raw material is available only in a particular season, then the organisation has to invest a huge fund in the season.
2. Nature of Business : If the business deals with luxury and consumer products, then it may maintain lower level of inventory. But if it deals with industrial goods it has to maintain a higher level of inventory.
3. Terms of Purchase : If supplier provides heavy discount and liberal credit facilities on bulk purchase, then firm may maintain high level of inventory. Similarly, if supply conditions are favourable, no disturbance in supply chain then inventory level can be low, but in adverse condition or uncertainty, firm should maintain high level of inventory.
4. State of Economy: In case of booming economy, firm will maintain high level of inventory to grab the high chances of emerging large orders and vice-versa.
5. Inventory Turnover Rate: When the turnover rate is high, investment in inventories tends to be low and vice-versa.
6. Value of the Product: In case of high value product, firm cannot afford to have large inventory. In case of low value products, firm can keep large quantities in stock.
7. Attitude of Management: Conservative management does not bother much in forecasting, demand and consider it safer to carry large stocks, while energetic or dynamic manager decides this by using advanced techniques of forecasting.
8. . Other Factors: Many other factors like market structure, fluctuations in price level, availability of funds, government policies, period of operating cycle etc. also affect the level of inventories.

RISK AND COSTS ASSOCIATED WITH HOLDING INVENTORY

When a firm holds goods for future sale, it exposes itself to a number of risks and costs. Inventories constitute a large percentage of the total cost. Inventory management is one of balancing tactics of various costs so that the total cost can be minimized. These costs are as follows:

Material Cost : These are the cost of purchasing the goods plus transportation and handling charges. This may be calculated by adding the purchase price, the delivery charges and the sales tax charged by the supplier (if any).

2. **Cost of Ordering :** It is the cost of placing an order and securing the supplies. The ordering cost is of variable nature and increases in proportion to the number of orders placed but has negative relation with level of inventory. It includes the following;

Preparation of purchase order.

- Documentation processing costs.
- Costs of receiving goods (Inspection and handling).
- Quality analysis expenses
- . • Transport costs.
- Addition costs of frequent or small quantity order, rejecting faulty goods.
- Follow up costs.
- Where goods are manufactured internally, the set up and tooling costs associated with each production run, which is also known as 'set up cost'.

Cost of Holding or Carrying Inventory :

These are the expenses of storing goods. Once the goods have been accepted, they become part of the firm's inventories. It comes around 30% of the total

inventory cost in most of the industrial undertakings. Cost of carrying stocks includes the following:

- Storage costs (rent, lighting, heating, refrigeration, air conditioning etc.)
- Stores staffing, equipment maintenance and running costs.

Material handling costs

- Capital cost and opportunity cost.
- Accounting, audit, stock taking or perpetual inventory costs.
- Product risk costs (deterioration and obsolescence)
- Insurance and security costs.
- Pilferage, damage and theft cost.

Under Stocking Costs : It is the penalty incurred to the concern on account of the inability to meet the demand in time. It includes the following:

- Loss of goodwill.
- Loss of profit due to reduction in sales.
- Machine and man hours lost due to unavailability of materials.
- Loss of future sales because customers go elsewhere.
- Compensation payable on account of non- fulfillment of orders.
- Extra costs associated with urgent purchases.

5. Over Stocking Costs :

6. In situations where disproportionate amount of funds are invested in inventories, excessive borrowing or financing would be required. It increases interest expenses and reduces profits. It also involves increase in associated costs like opportunity, obsolescence, loss due to decline in prices etc.

7. The costs of ordering opposes the cost of carrying while the under stocking costs opposes overstocking costs. If these costs operate in the same direction, there will be no inventory problem. The under stocking

and overstocking costs, help an industrial unit to determine the service level that has to be maintained for the inventory. The costs of ordering and the cost of carrying enable us to optimize on the number of orders and the quantity of inventory to be ordered.

TECHNIQUES OF INVENTORY MANAGEMENT:

In managing inventories, the firm's objective should be in consonance with the shareholder wealth maximization principle. To achieve this, the firm should determine the optimum level of inventory. Efficiently controlled inventories make the firm flexible. Inefficient inventory control results in unbalanced inventory and inflexibility-the firm may sometimes run out of stock and sometimes may pile up unnecessary

stocks. This increases the level of investment and makes the firm unprofitable. Designing a sound inventory management system is a large prerequisite for balancing operations. Reducing inventories without impairing operating efficiency frees working capital that can be effectively employed elsewhere. Various techniques applied for inventory management are as follows :

REORDERING SYSTEMS

- (a) Two bins system
- (b) Order cycling system
- c) Min max system

II. PHYSICAL VERIFICATION SYSTEMS

- (a) Continuous stock taking
- (b) Periodic stock taking

III. ACCOUNTING SYSTEMS (a) Perpetual inventory system

(b) Establishment of system of budgets

IV. INVENTORIES CONTROL RATIOS

(a) Input output ratio

(b) Inventory turnover ratio

V. SETTING OF VARIOUS STOCK LEVELS

VI. ECONOMIC ORDER QUANTITY

- VI. ABC ANALYSIS
- VII. ECONOMIC ORDER QUANTITY
- VIII. ABC ANALYSIS
- IX. VED ANALYSIS IX. JIT SYSTEM

REORDERING SYSTEMS

(a) Two Bin System : Bin means the drawer, Almira or other place of keeping the goods. Under the two bin system, each item of material is stored in two bins and material is continuously issued from one bin until the stock of materials is emptied in that bin. Then material from the second bin is started using and action will be taken to replenish the materials in the first bin. The material in the second bin will be sufficient enough until the fresh delivery is received. The major advantage of this system is that stock can be kept at a lower level because of the ability to re-order whenever stock falls to a low level, rather than waiting for the next re-order date.

Order Cycling System : In case of this system the review of materials in hand is undertaken periodically. If the review discloses that stock of a particular material will last before the next review date keeping in view of its consumption rate, an order for replenishment of that material is made immediately. The review period

differs from material to material. Critical items of stock have a shorter review period; on the other hand less critical stock items will have a larger interval. This technique is also called as periodic order system.

(b) Min Max System : According to this plan, for every material two levels are fixed (i) minimum level and (ii) the maximum level. The minimum level functions as the re-order point. As soon as the stock of material comes down to minimum level a new order is placed for quantity which will bring it to the maximum level. This method is one of the oldest methods of materials control. It is very simple to operate and easy to understand.

II PHYSICAL VERIFICATION SYSTEMS

Continuous Stock Taking:

Under this system, physical stock verification is made for each item of stock on continuous basis. It is physical checking of the stock records with actual stock on continuous basis. It is a method of verification of physical stock on a continuous basis instead of at the end of the accounting period. It is a verification conducted round the year, thus covering each item of store twice or thrice. Valuable items are checked more frequently than the stocks with lesser value.

CIMA defines "Continuous stock taking is the process of counting and valuing selected items at different times on a rotating basis."

The main benefits of this technique are that day to day work is not disturbed; discrepancies, irregularities or changes are detected at early stage.

Thus it acts as an effective deterrent to malpractices.

Continuous stock taking is not, however without disadvantages. It imposes regular strain on the stores staff and unless carried out very carefully, may lead to misplacement of materials..

- (c) Periodic Stock Taking: Under this system the stock levels are reviewed at fixed intervals e.g., at the end of every month or three months. All the items of stocks in the store are reviewed periodically.
- (d) CIMA defines periodic stock taking as "a process where by all stock items are physically counted and then valued". The aim of periodic stock taking is to find out the physical quantities of materials of all types are physically counted at a given date

III ACCOUNTING SYSTEMS :

- IV. (a) Perpetual Inventory System: Basically it is a method of accounting for inventory. Under this system inventory records are maintained in such a way that it can show the balance of the stock after each receipt and issue. Bin cards and stores ledger are used under this system.

CIMA defines perpetual inventory system as "the recording as they occur of receipts, issues and the resulting balances of individual items of stock in either quantity or quantity and value".

The main benefit of this system is that every time we have updated record of inventory and the checking and verification is done at any time without disturbing the normal function. It is worthwhile to mention the difference between perpetual inventory system and physical verification system. Under the perpetual inventory system only balances are updated on concurrent basis while in the physical verification system the inventory is physically verified and checked with the actual balances drawn from the stores ledger.

(b) **Establishment of Systems of Budgets:** To control investment in the inventories, it is necessary to know in advance about the inventories requirement during a specific period usually a year. Under this technique estimates are prepared regarding the requirement of various materials and on the basis of these estimate budget is prepared. Such a budget will discourage the unnecessary investment in inventories.

1V INVENTORY CONTROL RATIOS

Inventory control ratios also play a vital role in controlling the inventory. The ratios work as a comparison tool. The various ratios are as given below: (a) Input Output Ratio: This ratio indicates the relation between the quantity of material used in the production and the quantity of final output. This acts as a performance indicator of a particular production center.

$$\text{Input output ratio} = \frac{\text{Input Units}}{\text{Output Units}} \times 10$$

Inventory Turnover Ratio: This ratio indicates the movement of average stock holding of each item of material in relation to its consumption during the accounting period

$$\text{Turnover ratio} = \frac{\text{Cost of materials consumed}}{\text{Costs of average stock held during the period}} \times \frac{\text{Inventory}}{\text{Inventory}}$$

$$\text{Turnover ratio (in days)} = \frac{\text{Days during the period}}{\text{Inventory turnover ratio}}$$

Stock turnover figures may reveal the following types of stocks:

- (i) Fast Moving Stock : These are materials which are in great demand. An attempt should be made to keep these materials in stock at all the times.
 - (ii) Slow Moving Stock : These are materials which have a low turnover ratio. Thus inventory of such materials should be maintained at very low level.
 - (iii) Dormant Stock : Materials which have no demand are classified as dormant stocks. The purchase officer, the store-keeper, the production controller and cost accountant should sit together to decide whether to retain these materials because of good chance of future demand or to decide whether demand or to cut losses by scrapping the materials while they may have some market value.
 - (iv) Obsolete Stock : These are materials which are no longer in demand because a better substitute has been found. These materials should either be scrapped or discarded.
- (d) Other Ratio : Other ratio like inventory as a percentage of current assets, total assets are also useful

V. SETTING OF VARIOUS STOCK LEVELS

Various stock levels are fixed for effective management of inventories. These levels serve as indices for initiating action on time so that the quantity of each item of inventory is controlled

Re-Order Level : This is the point fixed between the maximum and minimum stock levels and at this time, it is essential to initiate purchase action for fresh supplies of the material. In order to cover the abnormal usage of material or unexpected delay in delivery of fresh supplies, this

point will usually be fixed slightly higher than the minimum stock level. The following factors are taken into account while fixing the re-order level:

1. Maximum usage of materials
2. Maximum lead time
3. Maximum stock level
4. Minimum stock level

Re-order level is the level of stock availability when a new order should be raised. The stores department will initiate the purchase of material when the stock of material reaches at this point. This level is fixed between the minimum and maximum stock levels. The re-order level can be determined by applying the following formula: $\text{Re-Order level} = (\text{Maximum consumption rate} \times \text{Maximum re-order period})$

Or $\text{Re-order level} =$

$(\text{Lead time} \times \text{Usage rate per day}) + \text{Safety stock}$ While deciding this level

- (i) the rate of consumption of the material, and
- (ii) the time required in receiving the supply are kept in mind. Re-order level is determined so much above the minimum stock level that by the time new stock is received, if the material is consumed at the normal rate, actual stock in the store may not go below the minimum stock level

Minimum Stock Level :

The following two points are kept in view while determining the minimum stock level:

(a) **Time Required for Receiving Fresh Stock:** After order for purchase of some item is placed, it takes some time in receiving the goods. If this time is more, the

minimum stock level should be kept more; and if the time taken is less, minimum stock level will also be kept low.

(b) Rate of Consumption of the Material: If a material is consumed in large quantity per day, its minimum stock level has to be kept higher. If the consumption per day is in small quantity, its minimum stock level is kept low.

Minimum stock level is computed by using following formula: Minimum stock level = Re-order level - (Normal consumption rate x Normal re-order period)

Or Minimum stock level = Usage rate per day x Days of safety

Maximum Stock Level : Maximum stock level represents the upper limit beyond which the quantity of any item is not normally allowed to rise to ensure that unnecessary working capital is not blocked in stock items.

The maximum level of stock is fixed after due consideration of the storage costs of holding excessive stock, cost of insurance, cost of obsolescence, risk of deterioration, cost of capital, time required in receiving fresh stock and average rate of consumption. It represents the total of safety stock level and economic order quantity.

The following factors are taken into consideration while fixing the maximum stock level:

1. Average rate of consumption of material.
2. Lead time.
3. Re-order level.
4. Maximum requirement of materials for production at any time.

(a). Total Cost (b). Carrying Costs

(c). Ordering Cost

(d). Quantity per order Cost

5. Storage space available cost of storage and insurance.

6. Financial consideration such as price fluctuations, availability of capital, discounts due to seasonal and bulk purchases, etc.

7. Keeping qualities e.g. risk of deterioration, obsolescence, evaporation, depletion and natural waste, etc.

8. Any restrictions imposed by local or national authority in regard to materials i.e. purchasing from small scale industries and public sector undertakings, price preference clauses, import policy, explosion in case of explosive materials, risk of fire, etc.; and

9. Economic ordering quantity is also considered. It is computed by the following formula:

Maximum stock level = (Re-order level + Re-order quantity) - (Minimum consumption rate x Minimum re-order period)

Or

Maximum stock level = Economic order quantity + Safety stock

- Average Stock Level: Average stock level is obtained by adding the minimum and maximum stock levels and dividing the sum by two.

Average stock level = (Minimum stock level + Maximum stock level)/2

Or Average stock level = Minimum stock level + $\frac{1}{2}$ Re-order quantity

Danger Level:

This is the level below the minimum stock level. When the stock reaches this level, immediate action is needed for replenishment of stock. As the normal lead time is not available, regular purchase procedure cannot be adopted resulting in higher purchase cost. Hence, this level is useful for taking corrective action only.

If this is fixed below the reorder level and above the minimum level, it will be possible to take preventive action. Danger level of stock is fixed below the minimum stock level and if stock reaches below this level, urgent action for replenishment of stock should be taken to prevent stock out position

Danger Stock level = Minimum rate of consumption x Minimum re-order period.

VI. ECONOMIC ORDER QUANTITY

It is important to note that only the correct quantity of materials is to be purchased. For this purpose, the factors such as maximum level, minimum level, danger level, re-ordering level, and quantity already on order, quantity reserved, availability of funds, quantity discount, and interest on capital, average consumption and availability of storage accommodation are to be kept in view.

There should not be any over stock vis-à-vis a question of non-stock. Balance should be made between the cost of carrying and cost of non-carrying i.e. cost of stock-out. Cost of carrying includes the cost of storage, insurance, obsolescence, interest on capital invested. Cost of not carrying includes the costly purchase, loss of production and sales and loss of customer's goodwill.

Economic Ordering Quantity (EOQ)

IT is the quantity fixed at the point where the total cost of ordering and the cost of carrying the inventory will be the minimum. If the quantity of purchases is increased, the cost of ordering decreases while the cost of carrying increases.

If the quantity of purchases is decreased, the cost of ordering increases while the cost of carrying decreases. But in this case, the total of both the costs should be kept at minimum.

Thus, EOQ may be arrived at by Tabular method by preparing purchase order quantity tables showing the ordering cost, carrying cost and total cost of various sizes of purchase orders. The economic order quantity refers to the order size that will result is the lowest total of order and carrying costs for an item of inventory.

If a firm places unnecessary orders, it will incur unneeded ordering cost. If it places too few orders, it must maintain large stocks of goods and will have excessive carrying cost. So it is clear that there is negative co-relation between ordering cost and carrying cost. By calculating an economic order quantity, the firm identifies the number of units to order that results in the lowest total of these two costs.

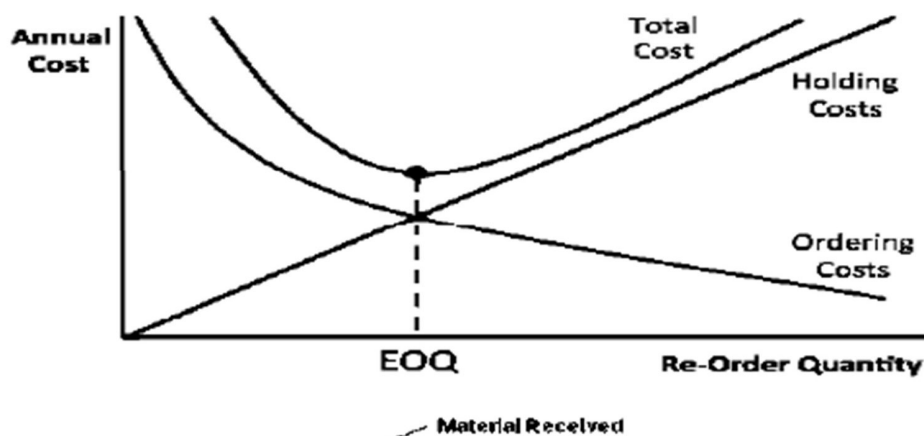
Assumptions of Economic Order Quantity :

- The rate of demand is known and sales occur at a constant rate.
- The lead time, the time between the placement of order and the receipt of the order, is known and constant.
- Stock holding costs are not changed with time factor and are known.
- There are no price discount and no quantity discount.

- Ordering costs are in proportion to number of orders.
- The replenishment is made instantaneously.

Economic order quantity can be computed by using the following formula:

$EOQ = \sqrt{2AB/CS}$ Here, EOQ = Economic order quantity A = Annual consumption B = Buying or ordering cost per order C = Cost per unit S = Storage or inventory carrying cost



(a) Ordering costs : The term ordering costs is used in case of raw materials (or supplies) and includes the entire costs of acquiring raw materials. They include costs incurred in the following activities: requisitioning, purchase ordering, transporting, receiving, inspecting and storing (store placement). Ordering costs increase in proportion to the number of orders placed.

C(b) Carrying costs : Costs incurred for maintaining a given level of inventory are called carrying costs. They include storage, insurance, taxes, deterioration and obsolescence. The storage costs comprise cost of storage space (warehousing cost), stores handling costs and clerical and staff service costs (administrative costs), incurred in recording and providing special facilities such as fencing, lines, racks etc

Carrying costs vary with inventory size. This behaviour is contrary to that of ordering costs which decline with increase in inventory size. The economic size of inventory would thus depend on tradeoff between carrying costs and ordering costs.

(c) Ordering and carrying costs trade-off : The optimum inventory size is commonly referred to as economic order quantity. It is that order size at which annual total costs of ordering and holding are the minimum.

(d) Order-formula approach : The trial and error, or analytical, approach is somewhat tedious to calculate the EOQ. An easy way to determine EOQ is to use the order-formula approach. Let us illustrate this approach

Advantages of EOQ

- Constant or uniform demand: The demand or usage is even through-out the period
- Known demand or usage: Demand or usage for a given period is known i.e. deterministic
- Constant unit price: Per unit price of material does not change and is constant irrespective of the order size
- Constant Carrying Costs: The cost of carrying is a fixed percentage of the average value of inventory

- Constant ordering cost: Cost per order is constant whatever be the size of the order

Limitations of EOQ are

- Only Applicable to Non-Perishable products with staple demand.
- Ignores Delivery Quantities & Discounts.
- Assumes Storage space is unlimited.
- Assumes retailer controls delivery Scheduling.

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VII. ABC ANALYSIS ABC analysis is a basic analytical management tool which enables top management to place the effort where the result will be greatest. This is a rational approach for determining the degree of control that should be exercised on each item of inventory.

VIII. The technique tries to analyse the distribution of any characteristics by stock value of importance in order to determine its priority. This is also known as 'Always Better Control' techniques. Under this technique the items in inventory are classified in three categories:

- IX.
 - Category A : In this category such items are selected which are comparatively costly and are substantial in the cost structure. Number of such items is very small, but these items represent the major portion

- of the total value of materials. Items selected in this group are very sensitive in nature.
- X. • Category B : In this category those items of material are included which are less important and less costly as compared to those included in group 'A'. Capital needed for purchase of these items is neither too large nor too small.
 - XI. • Category C : Items of the material in the store which have very low cost are included in this category. Number of such items is large, but these represent a very small fraction of the total cost of material.
 - XII. As the purchase of these items requires only a small capital, such items are purchased in large quantity at a time. Obviously, 'A' class items should be subject to strict management control under either continuous review or periodic review with short review cycles. Constant attention is paid by purchases and stores management i.e. no or very low safety stock is maintained, centralized and frequent purchase system is followed, rigorous value analysis is done, efforts for minimization of wastage are done etc.
 - XIII. 'C' class items require little attention and can be relegated down the line for periodic review. Control over 'B' class items should be somewhere in between. Classification of Inventory
- | Category | % of items | % of value | Control Required | Supervision |
|----------|------------|------------|---------------------------------|-------------------|
| A | 10% to 15% | 50% to 70% | Strict control system | Top management |
| B | 25% to 30% | 25% to 30% | Continuous watch over inventory | Middle management |
| C | 60% to 65% | 10% to 15% | General control | Lower management |

Advantages of ABC Analysis

1. To minimize purchasing cost and carrying cost (i.e. holding cost).
2. Closer and stricter control on these items which represent a high portion of total stock value.

3. Ensuring availability of supplies at all times.

. Clerical costs can be reduced.

5. Inventory is maintained at optimum level and thereby investment in Inventory can be regulated and will be minimum. 'A' items will be ordered more frequently and as such the investment in inventory is reduced.

6. Maintaining enough safety stock for 'C' items

. 7. Equal attention to A, B and C items are not desirable as it is expensive.

8. It is based on the concept of Selective Inventory Management and it helps in maintaining high stock-turnover ratio.

9. Limitations : Though, ABC analysis is a powerful scientific and systematic approach in the direction of cost reduction and saving time as it helps to control items with a selective approach. Some items though negligible in monetary value, may be vital for smooth functioning of plant and constant attention is needed.

10. For example diesel, oil is categorized in class 'C' items in most of the manufacturing firms, will become the most high value item during power crises. So, the results of ABC analysis have to be periodically reviewed and updated.

VED CLASSIFICATION

This type of classification divides items into three categories in the descending order of their criticality. Here 'V' stands for vital items and their stock analysis requires more attention, because out of stock situation will result in stoppage of production for example, needle for the machine. Thus, 'V' items must be stored adequately to ensure smooth operation of the plant. 'E' means Essential items. Such items are considered essential for efficient running but without these items the system would not fail but production capacity will be affected. For example lubricant oil for machine etc. is care

must be taken to see that they are always in stock. 'D' stands for Desirable items which do not affect the production immediately but availability of such items will lead to more efficiency and less fatigue. This technique is mainly used in the storage of spare parts and more suitable method for automobile industries.

X. JUST-IN-TIME (JIT) SYSTEMS

- XI. Its origin and development in Japan, largely in the 1960s and 1970s and particularly at Toyota, Just-In-Time (JIT) is a very simple idea but one that is essential in modern supply chain management. JIT sets out to cut costs by reducing the amount of goods and materials a firm holds in stock.

Japanese firms popularized the Just-In-Time (JIT) system in the world. In a JIT system, material or the manufactured components and parts arrive to the manufacturing sites or stores just few hours before they are put to use. The delivery of material is synchronized with the manufacturing cycle and speed. JIT system eliminates the necessity of carrying large inventories, and thus, saves carrying and other related costs to the manufacturer. The system requires perfect understanding and coordination between the manufacturer and suppliers, in terms of the timing of delivery and quality of the material. Poor quality material or components could halt the total Quality Management (TQM). The success of the system depends on how well a company manages its suppliers. The system puts The system puts

tremendous pressure on suppliers. They will have to develop adequate systems and procedures to satisfactorily meet the needs of manufacturers.

TIT-MBA

TIT-MBA

ADVANTAGES :

- There should be minimal amounts of inventory obsolescence,
- The very low inventory levels mean that inventory holding costs (such as warehouse space) are minimized.
- The company is investing far less cash in its inventory, since fewer inventories is needed.
- Fewer inventories can be damaged within the company,

Production mistakes can be spotted more quickly and corrected

UNIT 05: WORKING CAPITAL FINANCING :

Working Capital Financing: Sources of Working Capital Finance, Determining the Working Capital Financing Mix, New Trends in Financing of Working Capital by Banks

SOURCES OF WORKING CAPITAL FINANCE

INTRODUCTION

A source of Working Capital Finance means availability of funds for a period of one year or less than that period. Usually the sources for such short term finances Generally the short term sources are trade credit, bank credit, indigenous bankers, public deposits, advances from customers, personal loans, retained earnings, accrued expenses, and provision for taxation and depreciation fund. These are short term finances used to cover the financial needs up to one year employed in the purchase of raw materials, paying salaries, taxes, rent etc. Broadly speaking, the short-term finance may be classified between two categories i.e. spontaneous sources and negotiated sources. Spontaneous sources of finance are those which naturally arise in the course of business operations. Trade credit, credit from employees, credit from suppliers of services etc. are some of the examples which may be quoted in this respect. Negotiated sources, as it is clear from the name itself, are those which have to be specifically negotiated with lenders say commercial banks, financial institutions, general public etc. The finance manager has to be very careful while selecting a particular source, or a combination thereof for financing of working capital. Generally the following parameters are suggestive to consider before arriving on any decisions. These are cost, impact of credit rating, feasibility, reliability, restrictions and hedging or matching approach i.e. raising the same maturity short-term fund as needed in the business.

APPROACHES TO OPTIMUM MIX OF FUNDS

Approaches to optimum mix of funds are dealt with the size of investment in current assets, the methods of financing of working capital needs our attention. Working capital is financed both internally and externally through long-term and short-term funds, through debt and ownership funds. In financing working capital, the maturity pattern of sources of finance depended much coincide with credit period of sales for better liquidity. Generally, it is believed that funds for acquiring the fixed assets should be raised from long term sources and short-term sources should be utilized for raising working capital. But in the recent modern enterprises, both the types of sources are utilized for financing both fixed and current assets. There are basically three approaches to financing working capital. These are: the Hedging approach, the Conservative approach and the Aggressive approach.

Hedging Approach : The hedging approach is also known as the matching approach. Under this approach, the funds for acquiring fixed assets and permanent current should be acquired with long term funds and for temporary working capital short term funds should be used.

Conservative Approach : This approach suggests that in addition to fixed assets and permanent current assets, even a part of variable current assets should be financed from long-term sources. The short-term sources are used only to meet the peak seasonal requirements. During the off season, the surplus fund is kept invested in marketable securities. Surplus current asset enable the firm to absorb sudden variation in sales, production plans, and procurement time without destructing production plans.

Additionally the higher liquidity level reduces the risk of insolvency. But lower risk translates into lower returns. It assures continuous flow of operation and illuminates worry about recurring obligation. Under this strategy, long term

financing covers more than the total requirement of capital. The excess cash is invested in short-term marketable securities and in need these securities are sold off in the market to meet the urgent requirement of working capital.

Aggressive Approach :

This approach depends more on short-term funds. More short-term funds are used particularly for variable current assets and a part of even permanent current assets; the funds are raised from short term sources. Under this approach current assets are maintained just to meet the current liabilities without keeping cushions for the variation in working capital needs. The companies working capital is financed by long-term source of capital and seasonal variation are met through short-term borrowing. Adoption of this strategy will minimize the investment in net working capital and ultimately it lowers the cost financing working capital needs. The main drawback of this strategy is that it necessitates frequent financing and also increase, as the firm is variable to sudden shocks.

Risk preferences of management shall decide the approach to be adopted. The risk neutral will adopt the hedging approach, the risk averse will adopt the conservative approach and risk seekers will adopt the aggressive approach. On the other hand short-term finance tends to be less expensive than long term finance. The principal supplier of the short-term finance is the banking system and its overdrafts and loans have the additional advantages of being available quickly and inexpensively. On the contrary, in long term finance, the public issue of shares tends to be expensive because of the services of issuing houses, merchant banks, lawyers, accountants, and possibly other experts whose services are almost essential. Bank overdraft negotiations do not require these experts, although the bank may charge a commission for the overdraft facility offered in addition to the interests on the overdraft when used.

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Optimum mix of short term funds deals with the commercial bank, trade credit and other sources of funds that have to be repaid within a year or less. Trade credit is the privilege extended by suppliers to their customers for delaying the payment of goods purchased, sometimes for a month or more. Short-term financing is associated largely with paying for those business assets that change constantly in form and that are used up or consumed in the course of operations. Such assets are also called 'current assets' or 'working assets'. Customers may sometimes provide short-term funds by making advances on contracts. They in essence, make a prepayment on goods before receiving delivery. Customers might advance funds, if the order is big enough to require the manufacturer to tie up in raw materials or goods to process more funds than what the latter can afford.

TRADE CREDIT AND ACCRUAL ACCOUNTS

TRADE CREDIT:

Trade credit as source of working capital refers to credit facility given by suppliers of goods during the normal course of trade. In other word, the credit extended in

connection with the goods purchased for resale by a retailer, or for raw materials used by manufacturer in producing its products is called the trade credit. Thus, trade credit may be defined as the credit available in connection with goods and services purchased for resale. It is the 'resale' which distinguishes trade credit from other sources. It can be clarified with an example that the fixed assets may be purchased on credit, but since these are to be used in the production process rather than for resale, such credit purchase of fixed assets is not called trade credit. When a firm buys goods from another, it may not be required to pay for these goods immediately. During this period, before the payment becomes due, the purchaser has a debt outstanding to the supplier. This debt is recorded in the buyer's balance sheet as creditors; and the corresponding account for the supplier is that of debtors. Normal business transaction, therefore, provide the firm with a source of short term financing (trade credit) because of the time gap between the receipts of goods and services and payment thereof. The amount of such financing depends on the volume of purchases and the payment timing. Small and new firms are usually more dependent on the trade credit, as they find it difficult to obtain funds from other sources

There can be an argument that trade credit is a cost free source of finance but it is not, it involves implicit cost. The supplier extending trade credit incurs cost in the form of opportunity cost of funds invested in trade receivables. Generally, the supplier passes on these costs to the buyer by increasing the price of the goods or alternatively by not extending cash discount facility. Trade credit is mostly an informal arrangement and granted on open account basis, In USA trade creditors are called account payables.

Advantages of Trade Credit : Trade credit is a spontaneous source of financing. When volume of business grows, amount of credit also automatically increases. Suppose buyer is in habit of receiving credit for 20 days and his daily purchases are Rs. 20,000 per day. If his business increases and makes purchases for Rs. 4,00,000 (20 x 20,000) to Rs. 5,00,000 (20 x 25,000). In an informal way,

buyer receives extra credit as he has making prompt payment at the end of 20 days. The major advantages of trade credit are as under:

1. **Stress-free Availability** : Unlike other sources of finance, trade credit is easier to obtain. Market practice in a particular trade normally determines credit period. On this trade credit, many small firms survive. In many trades, it is an accepted way of conducting business. Even a new shop gets trade credit after a couple of transactions. It is not possible to secure borrowing from banks in initial periods. Even for a new company, trade credit is easier to secure and highly difficult to raise finance in capital market.
2. **Tractability** : Tractability is a unique feature of trade credit, if business expands, more purchases are made and with higher purchases, more trade credit is received. In contrast, when business declines automatically firm makes lower purchases with it, lesser trade credit is received.
3. **Casualness** : Trade credit is casual. No legal documents are involved. Generally no formal agreement is entered into while extending trade credit.

ACCRUAL ACCOUNTS

Accrual accounts means accounting method that records revenues and expenses when they are incurred, regardless of when cash is exchanged. The term "accrual" refers to any individual entry recording revenue or expense in the absence of a cash transaction. Accrual concept is the most fundamental principle of accounting which requires recording revenues when they are earned and not when they are received in cash, and recording expenses when they are incurred and not when they are paid.

Examples of expenses that are commonly accrued include: Interest on loans, for which no lender invoice has yet been received. Taxes incurred, for which no invoice from a government entity has yet been received. Wages incurred, for

which payment to employees has not yet been made. Some of the accrual accounts are as follows:

Accrued Expenses, Provisions & Deferred Income

Accrued Expenses: Another source of short-term financing is the accrued expenses or the outstanding expenses liabilities. The accrued expenses refer to the services availed by the firm, but the payment for which has not yet been made. The classical example is salaries payable to staff. In case of salaries and wages, employees render their services and so benefit of services is received by the firm immediately while payments are made at the end of month. So even employees to provide a source of spontaneous short-term finance to the organization they work. Electricity and telephone are other examples where services are received first and payments are made at the end of specified duration normally end of month. In case of corporate taxes, they are paid quarterly while profits are made as and when sales are made. In this way, even government has provided credit to business firms in respect of their cash sales. When bill for payment is not received and accounts are to be finalized, provision for accrued expenses is made in accounts to reflect true and fair profit and financial position in financial statements. It is built-in and an automatic source of finance as most of the services, are paid only at the end of a period. Accrued expenses represents spontaneous and interest free source of financing. There is no explicit or implicit cost associated with the accrued expenses and the firm can save liquidity by accruing these expenses. The longer the period of payment, higher the benefit firm derives. However, due to legal constraints and practical difficulties, firm cannot postpone their payment indefinitely. Till their payment, firm enjoys benefit as short term financing.

2. Provisions : From Profit after Tax, the various expenses to be made in future are deducted as estimated expenses of the future like provision for dividends, provision for bonus etc. As these provisions are not immediate cash outflow, they provide funds for the firm for its current use. However, the firm has to make

these payments in future from its future earning profits. Funds generated from operations, during an accounting period, increase working capital by an equivalent amount. The two main components of funds generated from operations are profit and depreciation. Working capital will increase by the extent of funds generated from operations.

3. Deferred Income : Deferred Income represents funds received in advance for services to be rendered in future. The receipts improve liquidity of firm. However firms that have great demand for their products and services, enjoying good reputation in market, can only get the benefit of deferred income. Manufacturers and contractors engaged in producing or constructing costly goods, involving considerable length of time for manufacture or construction, demand advance money before accepting orders. In turn key projects or where goods are to be made for a specific requirement, advance payments are insisted. This avoids possibility for cancellation of sale after commencement of execution of order. Normally, clause remains in those contracts that advance payment made would be forfeited on cancellation of the contract. These advances are adjusted when goods and services are supplied. Till supply of services, amount stands as a liability in the books of recipient. This is a cost free source of finance and really useful in business.

MONEY MARKET INSTRUMENTS

Money market instruments are securities that provide businesses, banks, and the government with large amounts of low-cost capital for a short time. The period is overnight, a few days, weeks, or evens months, but always less than a year.

Money market instruments allow managers to get cash quickly when they need it.

There are several money market instruments in most Western countries, including treasury bills, commercial paper, bankers' acceptances, deposits, certificates of deposit, bills of exchange, repurchase agreements, federal funds, and short-lived mortgage- and asset-backed securities. Functions of the Money

Market : The money market contributes to the economic stability and

development of a country by providing short-term liquidity to governments, commercial banks, and other large organizations. Investors with excess money that they do not need can invest it in the money market and earn interest. The Money Market Instruments help to provide short-term funds to the private and public institutions that need finance for their working capital requirements. These funds are provided by discounting the trade bills through commercial banks, brokers, discount houses, and acceptance houses.

Characteristics of the Money Market : Three important characteristics are:

- (i) Liquidity : Since they are fixed-income securities with short-term maturities of a year or less, money market instruments are extremely liquid.
- (ii) Safety : They also provide a relatively high degree of safety because their issuers have the highest credit ratings.
- (iii) Discount Pricing : A third characteristic they have in common is that they are issued at a discount to their face value.

Types of money market instruments :

There are several types of money market instruments. Few of them are as follows:

- Treasury bills.
- Commercial paper
- Short-term CDs. ● Bankers acceptances
- Municipal notes.
- Federal funds.
- Repurchase agreements (repos)

COMMERCIAL PAPER

Commercial Paper (CP) is an unsecured promissory note issued by a firm to raise funds for a short period, generally, varying from a few days to a few months. In India, the maturity period of Commercial Paper varies between 15 days to 1 year while in some other countries; the maturity period may go up to 270 days. It is a money market instrument and generally purchased by commercial banks, money market mutual funds and other financial institutions desirous to invest their funds for a short period. As the Commercial Paper is unsecured, the firms having good credit rating can only issue the commercial paper.

The firm or the dealers in Commercial Paper sell these to the shortterm lenders who use it as interest earning investment of temporary surplus of operating funds. The nature of these surpluses and motives for buying the CP suggest that all the holders of the commercial paper expect to be paid in full at maturity. The maturity term of commercial paper is not extended. This expectation on the part of short term lenders requires that the borrowing firm must be

- (i) an established and profitable firm and
- (ii) consistently maintaining credit goodwill in the market and having good credit rating. The interest cost of the commercial paper depends upon the amount involved, maturity period and the prime lending rates of commercial banks. The main advantage of commercial paper is that cost involved is lower than the prime lending rates. In addition to this cost, the borrowing firm has to bear another cost in the form of placement fees payable to the dealer of Commercial Paper who arranges the sale.

ISSUE OF COMMERCIAL PAPERS IN INDIA

IN January, 1990 with a view to enable the companies to borrow for short term. Since the commercial paper represents an unsecured borrowing in the money market, the regulation of CP comes under the purview of the Reserve Bank of India which has issued Guidelines in 2000 superseding all earlier Guidelines. These Guidelines are aimed at:

- (i) Enabling the highly rated corporate borrowers to diversify their sources of short term borrowings, and
- (ii) To provide an additional instrument to the short term investors.

These Guidelines have stipulated certain conditions meant primarily to ensure that only financially strong companies come forward to issue the CP. Commercial Paper should be in the form of usance promissory note negotiable by endorsement and delivery. It can be issued at such discount to the face value as may be decided by the issuing company. Commercial Paper is subject to payment of stamp duty. In terms of the guidelines, the issuer company is not permitted to take recourse to the underwriters for underwriting the issue of Commercial Paper

BENEFITS OF COMMERCIAL PAPER

From the point of the issuing company, Commercial Paper provides the following benefits: (a). Maturing commercial paper can be repaid by selling new commercial paper and thus can provide a continuous source of funds

. (b). Commercial Paper can be issued as a source of fund even when money market is tight. (c). Maturity of Commercial Paper can be tailored to suit the requirement of the issuing firm.

(d). Commercial Paper is sold on an unsecured basis and does not contain any restrictive conditions.

(e). Generally, the cost of Commercial Paper to the issuing firm is lower than the cost of commercial bank loans.

3 LIMITATIONS OF COMMERCIAL PAPER

However, Commercial Paper as a source of financing has its own limitations.

(a). Commercial Paper can neither be redeemed before maturity nor can be extended beyond maturity.

(b). Only highly credit rated firms can use it. New and moderately rated firms generally are not in a position to issue Commercial Paper. Commercial Paper is advantageous both to the issuer as well as to the investor. The issuer can raise short-term funds at lower costs and the investor as a short term outlet of funds. Commercial Paper provides liquidity as they can be transferred. However, the issuer must adhere to the RBI guidelines.

CERTIFICATE OF DEPOSITS

Certificates of Deposit (CDs)

- **Definition:**

- CDs are a secure form of time deposit requiring funds to remain in the bank for a specific duration to earn a guaranteed return.

- **Alternative Name:**

- Referred to as a "share certificate" in credit unions.

- **Interest Rate:**

- CDs typically offer higher interest rates compared to regular savings accounts.

- **Nature:**

- Acts as short-term borrowing, similar to a bank term deposit account.

- **Issuance:**

- Represented as a promissory note issued by a bank.
- Certificate specifies maturity date, fixed interest rate, and principal value.

- **Denominations:**

- Can be issued in any denomination, offering flexibility to investors.
- **Transferability:**
 - Certificates are stamped and can be transferred by endorsement.
- **Tenure:**
 - Terms generally range from 3 months to 5 years.
- **Withdrawal Restrictions:**
 - Funds cannot be withdrawn on demand without penalties.
 - Withdrawals with penalties are permitted if needed.
- **Returns:**
 - Higher returns than Treasury Bills (T-Bills) due to the relatively higher level of risk.
- **Return Methods:**
 - **Annual Percentage Yield (APY):**
 - Interest calculated using compounded interest.
 - **Annual Percentage Rate (APR):**
 - Interest calculated using simple interest.
 - Equal returns in APY and APR if interest is paid annually.
 - APY is more beneficial if interest is paid multiple times a year.

Advantages of Certificates of Deposit

1. **Term of Investment:**
 - Flexible tenures ranging from 3 months to 5 years.
 - Longer terms offer higher interest rates, ensuring greater returns on investment.
2. **Grace Period:**

- A 7-day grace period is usually granted after maturity to decide on reinvestment plans.
- 3. **Fixed Rate of Interest:**
 - Interest rates remain constant throughout the tenure, unaffected by market fluctuations.
 - Offers higher interest compared to regular savings accounts.
- 4. **Lower Risk:**
 - CDs are a low-risk investment option, making them ideal for risk-averse investors.
 - Funds are secure, and returns are guaranteed.
- 5. **Higher Interest Rates than Savings Accounts:**
 - CDs offer better returns than traditional savings accounts, especially during tough economic periods.
- 6. **Safe Investment for Banks:**
 - Banks use CD funds for safe investments, promoting financial stability and growth.
 - Less risky compared to market-linked investments like mutual funds.
- 7. **Wide Accessibility:**
 - Suitable for individuals across all income levels, from low to high-income groups.
 - No intermediaries are required; investors can directly approach banks to purchase CDs.
- 8. **Compounded Interest Option:**
 - Returns can be calculated using Annual Percentage Yield (APY), which offers compounded interest benefits.
- 9. **Encourages Savings Discipline:**
 - Withdrawal restrictions discourage premature fund usage, fostering savings discipline.
- 10. **Secure Documentation:**
 - CDs come with formal documentation specifying maturity date, fixed interest rate, and principal amount, ensuring transparency.

CDs are an excellent choice for investors seeking a secure, low-risk, and predictable investment option with better returns than savings accounts.

Disadvantages of Certificates of Deposit (CDs)

1. Penalty for Early Withdrawal:

Funds cannot be withdrawn before maturity without incurring a penalty.

Penalties can result in loss of part or all accrued interest.

2. Automatic Rollover:

If no action is taken upon maturity, the bank may automatically renew the CD.

Renewed CDs may have lower prevailing interest rates compared to other investment options.

3. Limited Liquidity:

- CDs are not easily liquidated in emergencies.
- Premature withdrawals often result in penalties, making them less accessible for urgent needs.

4. Inflation Risk:

- Fixed interest rates on CDs do not adjust for inflation.
- High inflation reduces the purchasing power of returns, eroding the real value of money over time.

Bill Discounting

Bill discounting is a financing method where a business sells its bill of exchange to a financial institution (e.g., a bank) before its maturity date at a price lower than its face value. This allows businesses to access funds immediately, improving liquidity.

1. Advance Against Bill of Exchange:

- Provides funds before the bill's maturity.
- The discount depends on the time left for maturity and associated risks.

2. Creditworthiness Check:

- Banks evaluate the drawer's credibility before advancing funds.
 - 3. **Ownership Transfer:**
 - Once purchased, the bank becomes the owner of the bill.
 - If the customer delays payment, interest may be charged as per prescribed rates.
 - 4. **Pawnee's Rights:**
 - In case of default, the bank can exercise rights over the goods supplied.
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Types of Bill Discounting

1. **LCBD (Letter of Credit Bill Discounting):**
 - Short-term credit facility backed by a Letter of Credit (LC).
 - Banks purchase bills or documents from the exporter (beneficiary) after fulfilling specific compliance requirements.
 - Commonly used in export financing as part of working capital finance.
 2. **CBD (Clean Bill Discounting):**
 - Provides liquidity by selling clean bills, promissory notes, or post-dated cheques to the bank.
 - Used for immediate cash after export or sale.
 3. **DBD (Drawee Bill Discounting):**
 - The bank pays the borrower immediately after deducting a discount/commission for bills drawn on the borrower's customer.
 - The bank collects the bill amount directly from the customer on the due date.
 4. **IBD (Invoice Bill Discounting):**
 - Sellers recover funds from unpaid invoices before their due date.
 - Finance companies issue loans against accounts receivable as collateral.
 - Typically, 80% of unpaid invoices (less than 90 days old) are financed, with the financial intermediary charging a service fee.
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Benefits of Bill Discounting

1. Provides immediate cash flow for businesses.
2. Facilitates better working capital management.
3. Offers short-term financing without additional collateral.

By utilizing bill discounting, businesses can bridge the gap between invoicing and receiving payments, enabling smoother operations and improved financial stability.

Factoring

Factoring is a financial arrangement where a business sells its accounts receivables (invoices) to a financial institution or factoring company at a discounted price. This helps businesses access immediate funds, enhancing liquidity.

Process of Factoring

1. The factoring company purchases the receivables from the client.
2. The factor deducts the following charges:
 - **Appropriate Margin (Reserve):** A portion of the invoice value held as a reserve.
 - **Interest Charges:** For financing the receivables.
 - **Commission Charges:** For additional services such as debtor management.
3. Payment instructions are given to customers to settle dues directly with the factoring company.

Services Provided by Factoring Companies

1. **Credit Investigation:** Assessing creditworthiness of debtors.
 2. **Debtor Ledger Maintenance:** Managing records of receivables.
 3. **Debt Collection:** Collecting payments on behalf of the client.
 4. **Credit Reports on Debtors:** Providing insights into the financial standing of customers.
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Types of Factoring

1. **Disclosed Factoring:**
 - All parties (seller, buyer, and factor) are aware of the factoring arrangement.
 2. **Undisclosed Factoring:**
 - The buyer is not informed about the factoring arrangement.
 3. **Recourse Factoring:**
 - The seller is liable for bad debts if the customer defaults on payment.
 4. **Non-Recourse Factoring:**
 - The factor assumes the risk of bad debts, resulting in higher commission charges.
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Advantages of Factoring

1. **Improved Liquidity:**
 - Provides immediate cash flow by converting receivables into funds.
 2. **Streamlined Collections:**
 - The responsibility of debt collection shifts to the factoring company, reducing administrative burden.
 3. **Reduced Losses from Delayed Payments:**
 - Timely funding prevents interest loss due to delayed payments from debtors.
 4. **Focus on Core Activities:**
 - Businesses can concentrate on sales and marketing rather than debt recovery.
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Disadvantages of Factoring

1. **Higher Costs:**
 - Factoring is more expensive than other short-term financing options.
2. **Negative Perception:**
 - Firms using factoring services might be perceived as financially weak.
3. **Strict Policies on Buyer Defaults:**

- If a buyer defaults, the factor may refuse further credit for sales to the same buyer, potentially reducing sales.
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Factoring is an effective tool for businesses needing immediate cash flow and support in managing receivables, but it requires careful consideration of its costs and potential implications on customer relationships.

Short-Term Bank Loans

Short-term bank loans are financial arrangements scheduled to be repaid within a year, designed to meet temporary working capital needs. They can be structured as direct financing (providing funds) or indirect financing (covering risks, e.g., letters of credit). Banks typically assess a firm's working capital requirements and set a credit limit. Interest is charged on the amount utilized, and firms are often required to maintain a compensatory balance.

Types of Short-Term Bank Loans

1. Cash Credit (CC):

- Popular for working capital needs.
- Limits are sanctioned based on the firm's sales and production plans.
- Seasonal industries may receive separate peak and non-peak credit limits.
- Limits are secured against current assets like stocks and book debts.
- Interest is charged on the amount utilized.

2. Bank Overdraft:

- Provides short-term funds in urgent situations.
- Limits are imposed on the maximum amount that can be borrowed.
- Funds can be repaid quickly when no longer needed.
- Overdrafts are sanctioned against fixed deposits, shares, insurance policies, or postal certificates.
- Permanent or temporary overdrafts may be granted, with temporary overdrafts used for specific short-term needs.
- Interest is charged on the utilized amount, and cheques can be issued from the account.

3. Note Lending:

- A non-running loan account sanctioned for 2-3 months.
- Funds are provided against promissory notes or debt instruments.
- Interest is charged on the entire sanctioned amount, unlike cash credit or overdrafts.
- Less popular than cash credit or overdraft facilities.

4. **Line of Credit:**

- An agreement allowing a firm to borrow up to a specified limit over a set period, usually a year.
- Provides flexibility as funds can be borrowed as needed, with interest charged only on the utilized amount.
- Typically renewed annually, with terms adjusted based on the borrower's financial condition.
- A commitment from the bank to lend funds on demand within the agreed maximum limit.

5. **Bank Guarantees:**

- A facility where banks provide guarantees on behalf of clients to third parties (beneficiaries).
- Categories include:
 - **Performance Bank Guarantee:** Ensures fulfillment of contractual obligations.
 - **Guarantees Against Advances:** Secures advance payments made by buyers to suppliers.
 - **Guarantees in Lieu of Security Deposit/Earnest Money:** Commonly required in government or corporate tenders.
- Widely used in private and public sector projects.

Benefits of Short-Term Bank Loans

- Helps meet urgent and temporary working capital requirements.
 - Flexible financing options tailored to business needs.
 - Interest charged only on the utilized amount in some cases (e.g., cash credit and overdraft).
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Short-term bank loans are an essential tool for businesses, offering immediate funds and flexible repayment structures. By selecting the appropriate facility, businesses can efficiently manage their cash flow and working capital needs.

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