MSC. Accounting and Finance
CF : Session 8

WORKING CAPITAL MANAGEMENT

Session 8 summary

- Definition of working capital
- Importance of working capital
- Assessment of working capital.
- Cash management
- Management of short-term finance and short term investments
- Management of Receivables
- Management of Inventory
- Management of Payables
- Overtrading & overcapitalization.

Definition of WC

Working capital refers to the difference between a company's current assets and current liabilities. In essence, it represents the funds available to a company for its day-to-day operations. Current assets are assets that are expected to be converted into cash or used up within one year, such as cash, accounts receivable, and inventory. Current liabilities are obligations that are due within one year, including accounts payable, short-term loans, and accrued expenses. **The formula for calculating working capital is as follows:**

Working Capital = Current Assets – Current Liabilities

Working capital is a measure of a company's short-term liquidity and operational efficiency. Positive working capital indicates that a company has more current assets than current liabilities, which means it has sufficient funds to cover its short-term obligations. Conversely, negative working capital indicates that a company may struggle to meet its short-term obligations with its current assets alone.

Importance of Working Capital

Working capital management is essential for several reasons.

i. Liquidity and Solvency. Adequate working capital ensures that the company has sufficient funds to meet its short-term obligations as they become due. It enhances the company's liquidity and solvency, reducing the risk of financial distress or bankruptcy.

ii. Operational Efficiency. Efficient working capital management ensures smooth day-to-day operations by maintaining optimal levels of inventory, managing accounts receivable effectively, and optimizing cash flow. It minimizes disruptions in production and supply chain activities, enhancing operational efficiency.

iii. Strategic Planning. Working capital management is integral to strategic planning and decision-making. It enables the company to align its short-term financial goals with its long-term strategic objectives, ensuring that working capital is deployed effectively to support growth initiatives and value creation.

iv. Investor Confidence. Efficient working capital management signals to investors and stakeholders that the company is well-managed, financially sound, and capable of meeting its obligations. It enhances investor confidence and credibility, supporting the company's access to capital and favorable financing terms.

Importance of Working Capital continuation

v. Operational Continuity. Adequate working capital ensures that a company can cover its day to-day operational expenses, such as salaries, rent, utilities, and raw materials. Without sufficient working capital, operations may be disrupted, leading to delays in production, delivery, or service provision.

vi. Cash Flow Management. Working capital management is crucial for maintaining healthy cash flow. It allows companies to balance inflows and outflows of cash effectively, ensuring that there's enough liquidity to meet short-term obligations while optimizing the use of available funds.

vii. Meeting Short-Term Obligations. Working capital provides the necessary funds to meet short-term liabilities as they become due, including payments to suppliers, creditors, and lenders. By managing working capital efficiently, companies can avoid late payment penalties, maintain positive relationships with stakeholders, and preserve their creditworthiness.

viii. Supporting Growth Initiatives. Effective working capital management can facilitate growth initiatives by providing the necessary funds for investments in new projects, expansion opportunities, and market expansion strategies. It ensures that companies can capitalize on growth opportunities without jeopardizing their financial stability.

Importance of Working Capital continuation

ix. Managing Seasonal Fluctuations. Many businesses experience seasonal fluctuations in demand and revenue, which can strain working capital. Proper working capital management allows companies to anticipate and prepare for these fluctuations, ensuring that they have sufficient resources to support operations during peak and off-peak periods.

x. Minimizing Financing Costs. Optimizing working capital levels can help minimize the need for external financing, reducing interest expenses and financing costs. By efficiently managing accounts receivable, inventory, and accounts payable, companies can optimize their cash flow and reduce their reliance on expensive short-term borrowing.

xi. Enhancing Profitability. Effective working capital management contributes to improved profitability by reducing holding costs associated with excess inventory, minimizing bad debts from overdue accounts receivable, and maximizing cash flow from operations. It allows companies to generate higher returns on invested capital and improve their overall financial performance.

xii. Risk Management. Inadequate working capital can expose companies to various risks, including liquidity risk, operational risk, and financial distress. By maintaining sufficient working capital reserves, companies can mitigate these risks and ensure their ability to withstand unforeseen challenges or economic downturns.

Components of WC

1. Management of Cash in hand and cash at Bank
2. Management of Receivables / Debtors
3. Management of Inventory / Stock
4. Management of Payables/ Creditors

Managing working capital

Changes in the business environment might lead to a decision to change the level of investment in working capital

These changes may include the following:

- changes in interest rates
- changes in market demand for the business' output
- changes in the seasons
- changes in the state of the economy.

Factors Determining Working capital needs of firms

A firm should have neither low nor high working capital. Low working capital involves more risk and more returns, high working capital involves less risk and less returns. Risk here refers to technical insolvency while returns refer to increased profits/earnings. The amount of working capital is determined by a wide variety of factors as follows:

1. Nature of Business: The working capital requirement of a firm depends on the nature of the business. For example, a firm involved in sale of services rather than manufacturing or a firm such as a supermarket that is allowing only cash sales. In the first instance, no investment is required in either raw materials or WIP or finished goods, while in the second occasion there exists no receivable as there is immediate realization of cash. Hence the requirement of working capital will be lower.

Factors Determining Working capital needs of firms

2. Seasonality of Operations:

If the product of the firm has a seasonal demand like refrigerators, the firms need high working capital in the periods of summer, as the demand for the refrigerators is more and the firm needs low working capital in the periods of winter, as the demand for the product is low.

3. Production Cycle

The term production cycle refers to the time involved in the manufacture of goods. It covers the time span between the procurement of the raw materials and the completion of the manufacturing process leading to the production of goods. As funds are necessarily tied up during the production cycle, the production cycle has a bearing on the quantum of working capital. The longer the time span of production cycle, the larger will be the funds tied up and therefore the larger the working capital needed and vice versa.

Factors Determining Working capital needs of firms

4. Production Policy

The amount of working capital is also determined by production policy. If the firm has production policy to carry on production at a steady level to meet the peak demand, this will result in a large accumulation of finished goods (inventories) during the off-seasons and the abrupt sale during the peak season. The progressive accumulation of finished goods will naturally require an increasing amount of working capital. If the firm has production policy to produce only when there is a demand then the firm needs low working capital during the slack season and high working capital during peak season.

Factors Determining Working capital needs of firms

5. Credit Policy

The level of the working capital is also determined by the credit policy, as the firm's credit policy determines the amount of receivables. If the firm has a liberal credit policy, then the firm needs high working capital and the firm needs low working capital if the company's credit policy does not allow it to extend credit to the buyers.

Factors Determining Working capital needs of firms

6. Market Conditions

The working capital requirements are also determined by the market conditions. In case of the high degree of competition prevailing in the market the firm has to maintain larger inventories as customers are not inclined to wait for the product. This needs higher working capital requirements. If there is good demand for the product and the competition is weak, a firm can manage with smaller inventory of finished goods, as customers can wait for the product if it is not available in the market.

Thus, a firm can manage with low inventory and will need low working capital requirements.

Factors Determining Working capital needs of firms

7. Conditions of Supply

The availability of raw materials and spares also determine the level of working capital. If there is ready availability of raw materials and spares, a firm can maintain minimum inventory and need less working capital. If the supply of raw materials is unpredictable, then the firm has to acquire stocks as and when they are available for ensuring continuous production.

Thus, the firm needs to maintain larger inventory average and needs larger requirement of working capital.

Factors Determining Working capital needs of firms

8.Operating efficiency

This relates to the optimum utilization of resources at minimum costs. Better utilization of resources improves profitability and helps in reducing pressure for more working capital.

9. Price level changes

If there is an increasing price level in the country , then working capital levels have to be increased as well. However, increasing general price levels affects firms differently. While some are severely affected, others may not be affected at all.

Other factors to consider

- **Sales Forecasting.** Analyze sales forecasts and demand projections to estimate the level of working capital required to support production, inventory management, and accounts receivable. Consider seasonal variations, market trends, and customer preferences when forecasting sales.
- **Inventory Management.** Assess inventory turnover ratios, lead times, and production schedules to determine the optimal level of inventory required to meet customer demand while minimizing holding costs and the risk of obsolescence. Consider implementing just-in-time inventory practices to reduce inventory levels and improve cash flow.
- **Accounts Receivable Management.** Evaluate the company's credit policies, customer payment terms, and collection processes to optimize accounts receivable management.
- **Monitor aging receivables,** bad debt levels, and customer creditworthiness to minimize the risk of late payments and bad debts.

Other factors to consider

- **Accounts Payable Management.** Consider the company's payment terms with suppliers, negotiation leverage, and cash flow requirements when managing accounts payable. Balance the need to preserve vendor relationships with the goal of maximizing cash flow and liquidity.
- **Cash Flow Forecasting.** Develop cash flow forecasts and liquidity projections to estimate the company's short-term cash needs and working capital requirements. Identify potential cash flow gaps or surpluses and adjust working capital levels accordingly to maintain adequate liquidity.
- **Financial Ratios and Benchmarks.** Monitor key financial ratios, such as the current ratio, quick ratio, and cash conversion cycle, to assess the company's liquidity position and working capital efficiency. Benchmark the company's performance against industry peers to identify areas for improvement.
- **Risk Management.** Consider the company's risk tolerance, financial flexibility, and exposure to external risks when determining the amount of working capital to keep. Maintain sufficient working capital reserves to mitigate risks associated with economic downturns, supply chain disruptions, and other unforeseen events.
- **Strategic Objectives.** Align working capital management decisions with the company's strategic objectives, growth initiatives, and long-term financial goals. Ensure that working capital levels support the company's expansion plans, investment priorities, and value creation strategies.

Financing working capital

- The amount of funds tied up in working capital would not typically be a constant figure throughout the year. Only in the most unusual of businesses would there be a constant need for working capital funding. For most businesses there would be weekly fluctuations. For every firm, there is a minimum amount of net working capital which is permanent.
- Therefore a portion of the working capital should be financed with the permanent sources of funds such as equity share capital, debentures, long term debt, preference share capital or retained earnings.

Financing working capital

- There is no precise way to determine the exact amount of gross or net working capital for any firm. The data and problems of each firm or company should be analyzed to determine the amount of working capital.
- There is no specific rule as to how current Assets should be financed. It is not feasible in practice to finance current assets by short term sources only. Keeping in view of the constraints of the individual company, a judicious mix of long term and short term finances should be invested in current assets. Since current assets involve cost of funds, they should be put to productive use to earn a return.

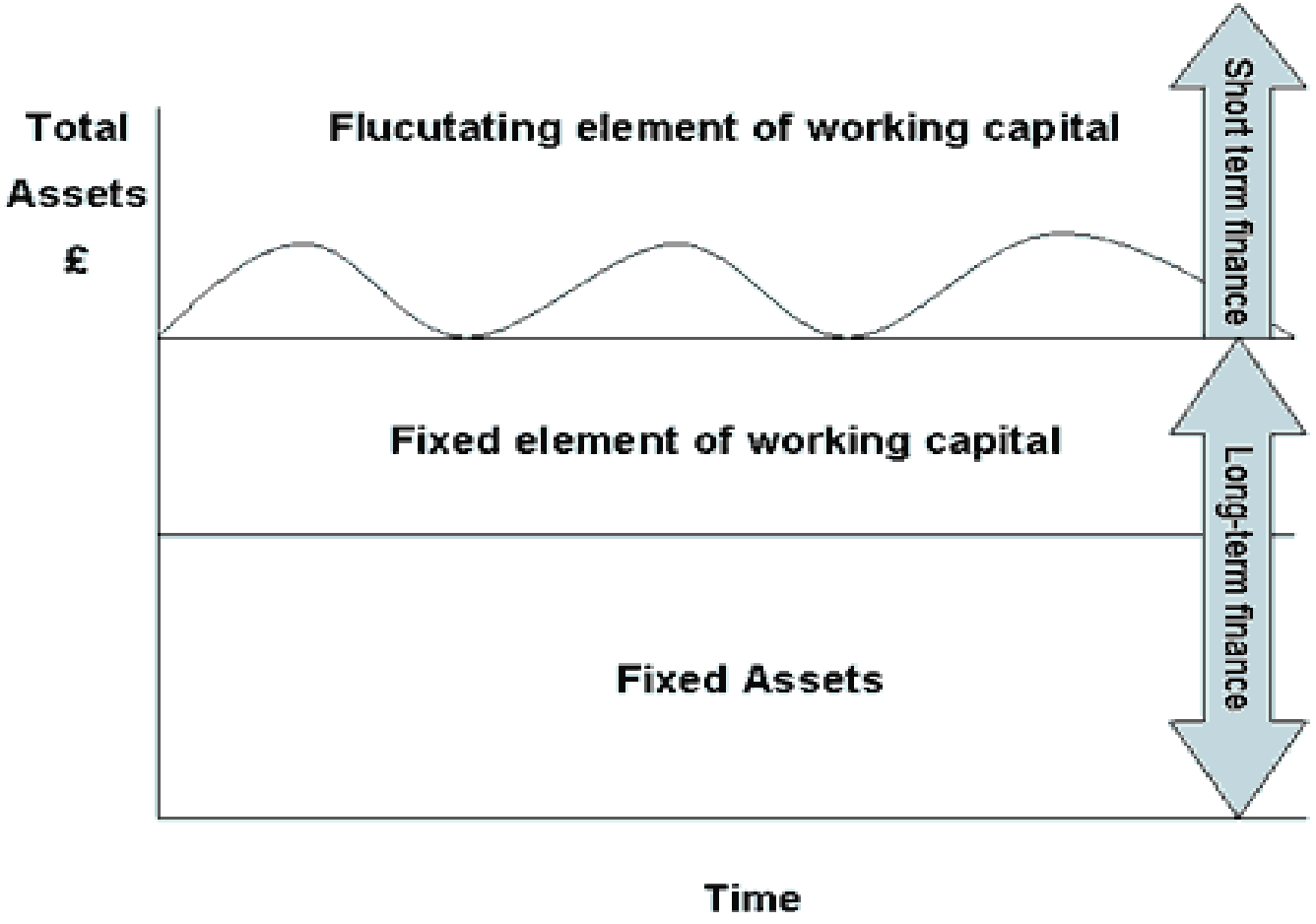
Financing working capital

In principle, the working capital needs can be separated into two parts:

- ***A fixed / permanent*** *part*, and
- ***A fluctuating /*** **temporary** part.

The fixed part is probably defined in amount as the minimum working capital requirement for the year. It is widely advocated that the firm should be funded in the way shown in the diagram below:

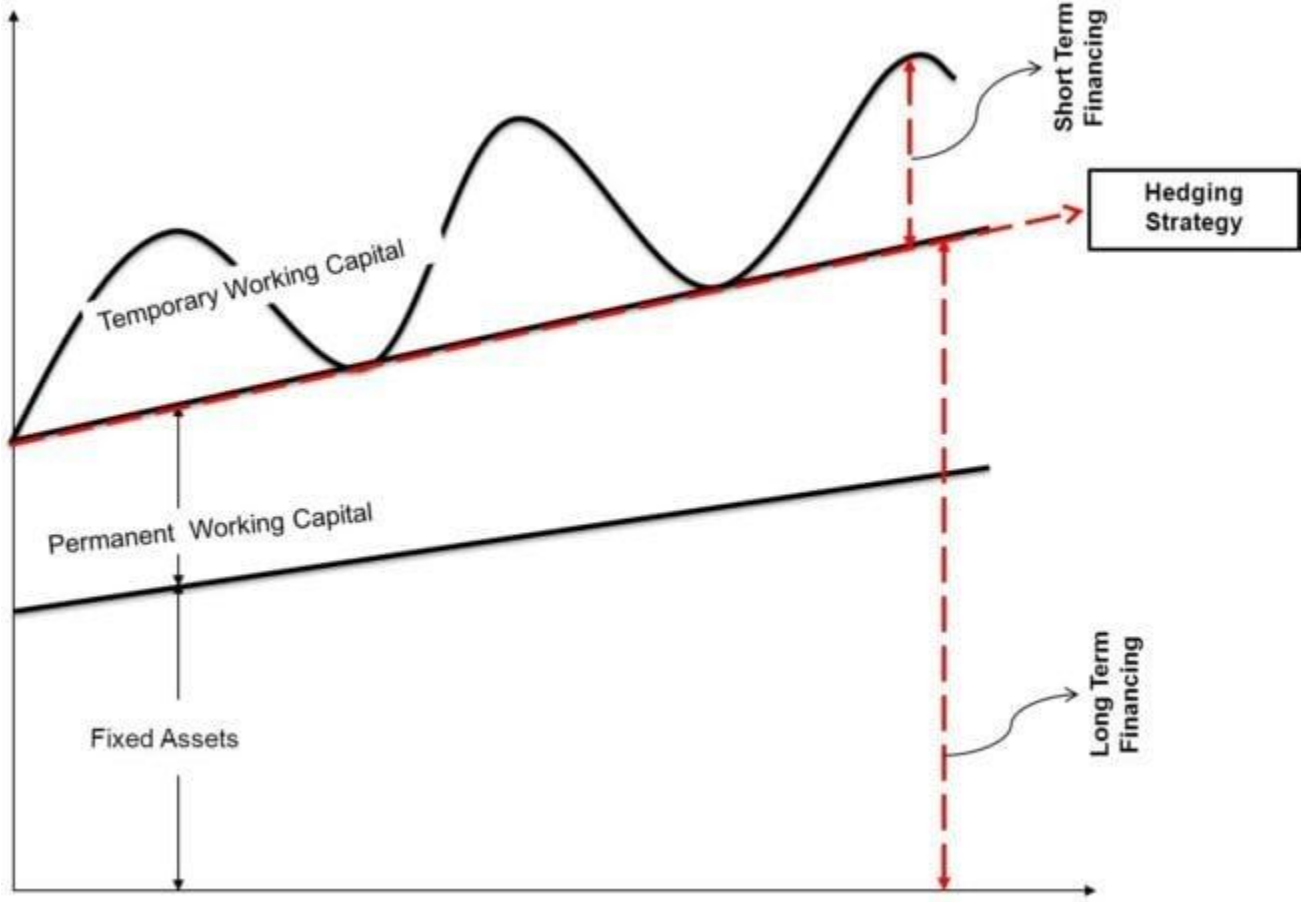
Ideal way of financing working capital(Matching principle)



Different Approaches applied in the mix of short and long term financing

i) Marching principle: It is also called the ***hedging principle*** to working capital management and according to this method the expected life of the asset is matched with the expected life of the source of funds. The more permanent needs (fixed assets and the fixed element of working capital) should be financed from fairly permanent sources (e.g. equity and loan stocks); the fluctuating element should be financed from a short-term source (e.g. a bank overdraft), which can be drawn on and repaid easily and at short notice. This approach makes a firm safer.

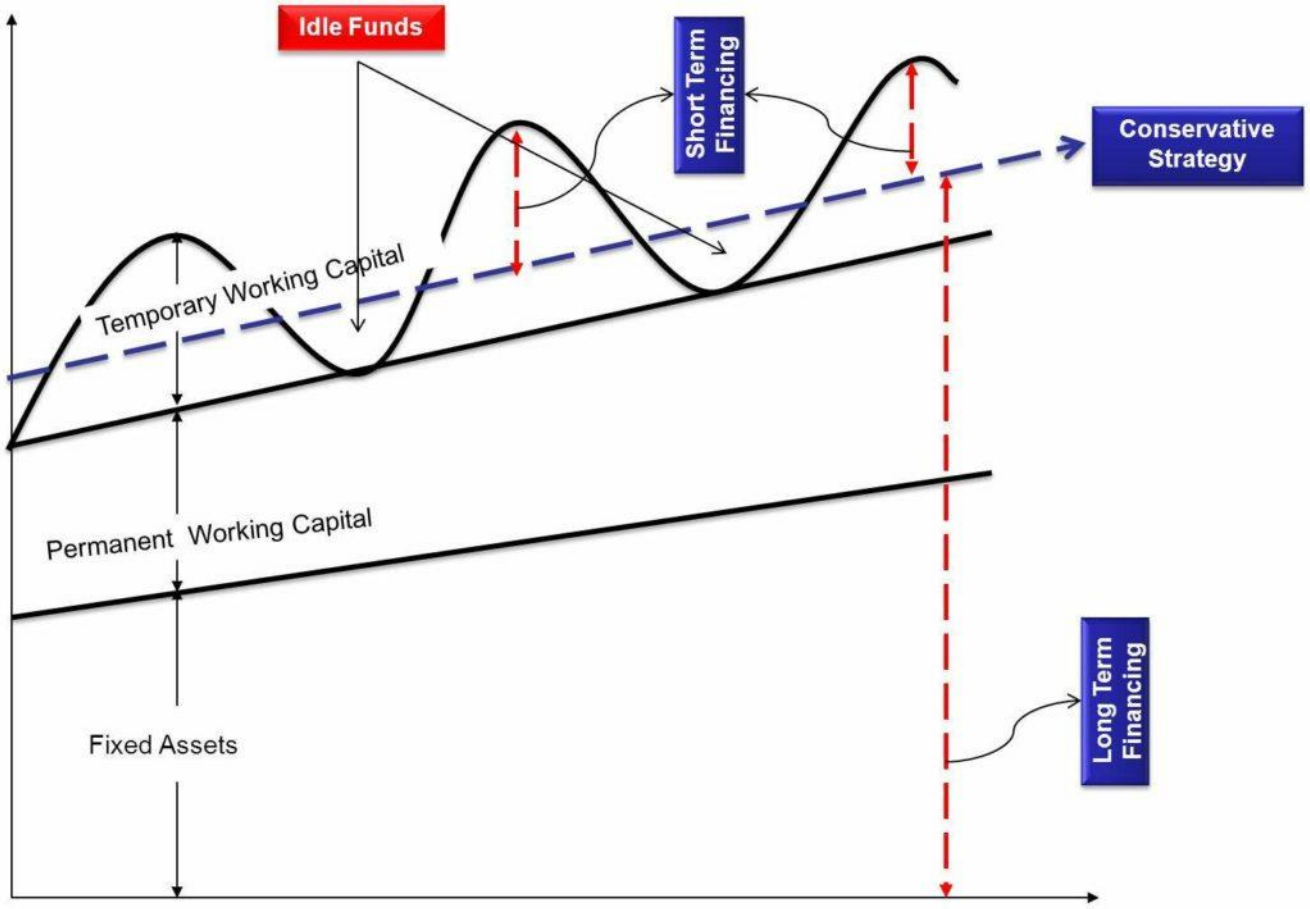
Diagrammatic Illustration of Matching approach



Different Approaches applied in the mix of short and long term financing

ii) Conservative approach: Under this approach, a firm depends more on long term funds for its financing needs. It finances its permanent assets and also part of its temporary assets with long term sources of funds. During periods when the firm has no need for temporary current assets, the idle funds can be invested in the tradable securities so as to conserve liquidity. Since the conservative policy relies heavily on long term financing, the firm has less risk of facing problems of shortage of funds.

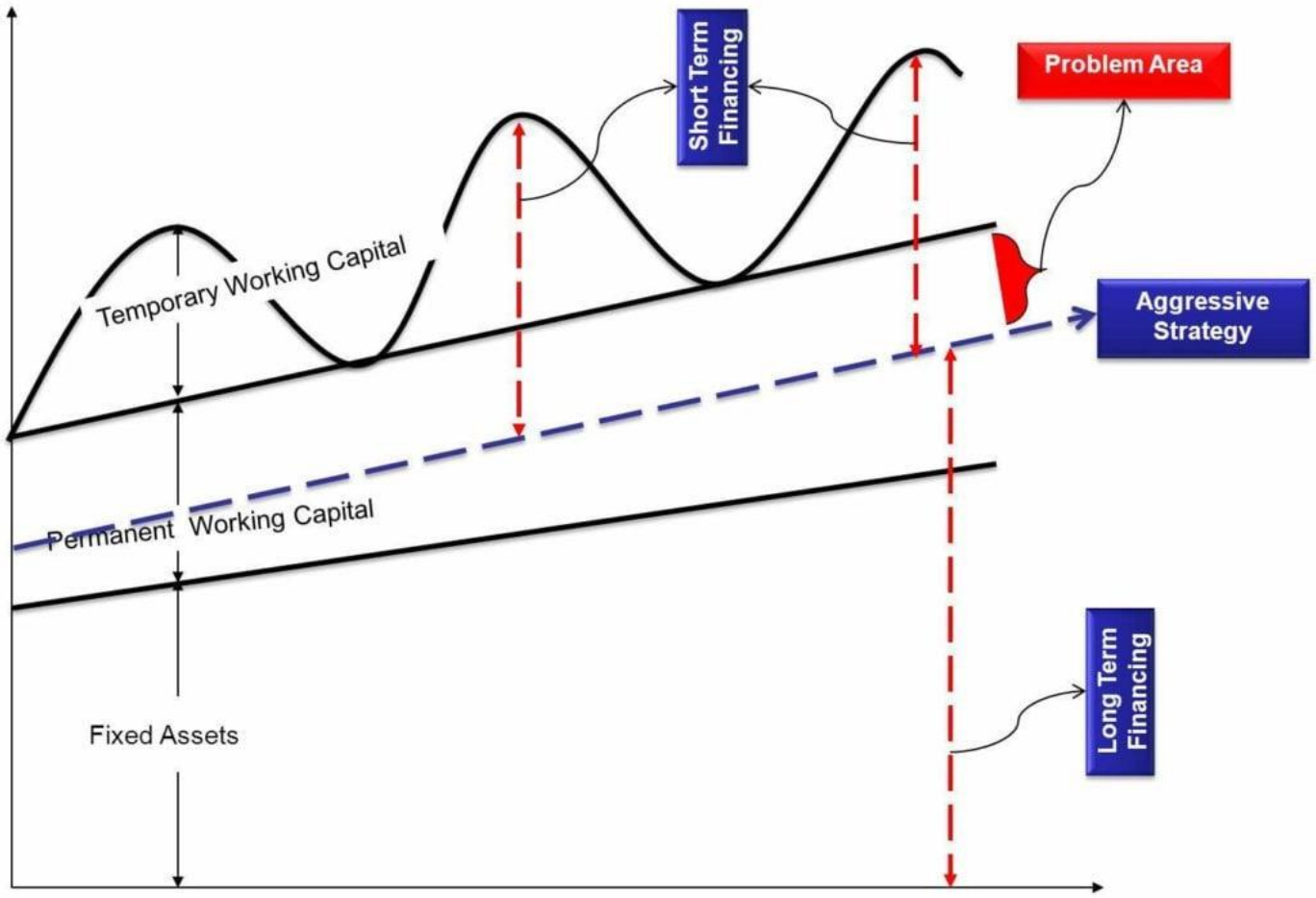
Diagrammatic illustration of Conservative approach



Different Approaches applied in the mix of short and long term financing

iii. Aggressive Approach: This policy is followed by a firm which uses more short term financing than it is warranted by the matching principle. It finances part of its permanent current assets with short term financing. Other extremely aggressive firms may even finance part of their fixed assets using short term financing. This use of relatively more short term financing makes the firm more risky.

Diagrammatic illustration of Aggressive Approach



Cash Management

Cash refers to the liquid assets held by a company, including physical currency, bank deposits, and other highly liquid instruments that can be readily converted into cash.

Motives/Reasons for Holding Cash

- **Transaction Motive.** To facilitate day-to-day business operations, such as paying suppliers, employees, and utility bills.
- **Precautionary Motive.** To maintain a buffer of cash to cover unexpected expenses or emergencies.
- **Speculative Motive.** To take advantage of investment opportunities that may arise, such as acquiring assets at discounted prices or investing in short-term securities.

Objectives of Cash Management

- To maintain an optimal cash balance that is sufficient to support the motives of holding cash while avoiding the costs associated with holding excessive levels of cash, it is essential to strive for a state where cash inflows equal cash outflows. This equilibrium is often referred to as the concept of "Zero Cash Balance."
- In practical terms, businesses frequently find themselves in one of two scenarios. a cash surplus or a cash deficit. A deficit cash balance occurs when the available cash falls below the optimal balance needed, while a surplus cash balance arises when the available cash exceeds the estimated optimal cash level. Achieving this balance is crucial for efficient cash management and ensuring financial stability.

Cash Management Policy

These are guidelines designed to ensure sufficient management of cash resources of a firm.

The policy looks at 3 different areas which include;

- Management of Cash Inflows/Receipts
- Management of Cash Disbursements/Outflows
- Management of Cash Deficits and Cash Surpluses

Management of Cash Inflows/Receipts

In managing cash inflows, firms commonly deploy strategies aimed at expediting the receipt of cash.

These strategies include.

- Offering incentives, such as post-sale services (e.g., installation, transportation, customer training).
- Enhancing internal efficiency to streamline processes and expedite transactions.
- Providing cash discounts to encourage prompt payments from customers.
- Promoting electronic payments to facilitate faster and more efficient transactions and reducing cheque floats, which refers to the time

Management of Cash Inflows/Receipts contd

This can be achieved through.

- **Implementing decentralized collection processes**, wherein the firm's regional branches or offices are authorized to collect payments from customers within their respective geographical areas.
- **Implementing a lockbox system**, where customers deposit cheques into nearby post office boxes, and a designated local bank is tasked with collecting and processing the cheque payments promptly.

Management of Cash Disbursements/Outflows

This involves employing strategies that tend to delay outflow as much as possible without tarnishing the corporate image of the firm.

Cash disbursement strategies include the following:

- **Explore credit extension possibilities**; if suppliers are able to extend the credit period, the firm should explore such possibilities and negotiate with such suppliers.
- **Implement cheque payment system**; Making payments through the bank because you take advantage of the processing time i.e. 3-4 days.
- **Centralize payments**. In this way, the firm buys time e.g. payment made at headquarters in Kampala yet transaction was in Gulu.
- **Take advantage of credit facilities** offered by suppliers so that payments can be effected on a later date.
- Extended payment terms

Managing Surplus Cash Balances

- Despite the efforts to match cash inflows and outflows, the firm will always find itself with either a cash deficit or surplus.
- Surplus cash balances represent idle resources and should be invested in short term ventures to earn returns.
- **Options for Investing Cash Surplus**
  - **Investment in short term securities**; For instance treasury bills, certificates of deposits, commercial papers and bonds.
  - **Fixed deposit accounts -** 3 to 12 months
  - **Invest in long term income generating asset.** where the surplus is expected to last for a long time, it can be invested in another long term asset.
  - **Diversification or expansion;** use the cash for expansion in case the surplus is expected to last for a longer period.

Criteria/considerations for investing surplus cash

Where surplus is expected to last for only a short period of time, the firm should consider the following criteria in choosing where to invest;

- **Safety of the investments**, the need for profitability should not increase the risk of illiquidity. These investment instruments should have a low default risk so that return in form of interest and principal is realized as and when needed e.g. investment in fixed deposit accounts and treasury bills.
- **Marketability of the investment** – These investments should be easily converted into cash with minimum possible loss.
- **Profitability of such investment** i.e. should give a reasonable rate of return.
- **Short maturity period**, the instruments should have short maturity periods in order to minimize risk of economic fluctuations.

Managing Deficit Cash Balances

Here, the firm needs to make arrangements to finance the deficits in advance to avoid panic measures which may result into high costs of financing.

These measures include;

- Arrange for a short term bank loan to finance the deficit
- Apply for a bank overdraft – Withdraw more than what you have on your account.
- Dispose some of the idle resources to finance the deficit
- Debt factoring; use part of the debtors to finance the deficit by selling them to financial institution and receive immediate cash
- Defer some of the expenditures that are not very critical to a future date.
- Prioritize activities and attend to the most urgent first
- Explore the invoice discounting possibilities.

Cash Planning

It refers to a technique used in estimating cash Receipts/Inflows and cash disbursements/Outflows over a given period of time. To be able to determine the cash position of a firm, there is need to undertake cash planning for a given period of time.

This helps a firm to anticipate the future cash inflows and outflows to reduce the possibility of surplus or deficit balances.

- This gives rise to what is known as **FORECASTED CASH BUDGET.**

Cash Budget

- A cash budget is a financial tool used by businesses to estimate and plan their cash inflows and outflows over a specified period, typically a month, quarter, or year. It helps in forecasting the future cash position of a company by predicting the timing and amounts of cash receipts and disbursements.
- The main purpose of a cash budget is to ensure that a company has enough cash on hand to meet its financial obligations while also avoiding excessive cash balances that could be invested more effectively elsewhere. It allows businesses to anticipate periods of cash surplus or deficit, enabling them to make informed decisions regarding financing, investments, and operational adjustments.

Components of a cash budget

- **Cash Receipts.** Anticipated sources of cash inflows, such as sales revenue, loans, investments, and other income.
- **Cash Disbursements.** Expected cash outflows, including expenses such as payroll, rent, utilities, taxes, inventory purchases, loan repayments, and other operating expenses.
- **Beginning Cash Balance.** The cash balance at the beginning of the budget period.
- **Ending Cash Balance.** The projected cash balance at the end of the budget period, calculated by adding cash receipts and subtracting cash disbursements from the beginning cash balance.

Uses of a cash budget

i. Forecasting Cash Flow. A cash budget helps in predicting future cash inflows and outflows over a specific period, typically monthly, quarterly, or annually. It enables individuals and businesses to anticipate periods of surplus or shortage in cash.

ii. Planning and Budgeting. With a cash budget, entities can plan and allocate resources efficiently. It aids in setting realistic financial goals and determining how much money should be allocated to various expenses, investments, and savings.

iii,. Identifying Cash Shortages. By comparing projected cash inflows with outflows, a cash budget can reveal potential cash shortages. This allows businesses to take proactive measures such as arranging for additional financing or adjusting spending plans to avoid liquidity issues.

Uses of a cash budget

iv. Decision Making. A cash budget provides valuable insights for decision-making. It helps in evaluating the financial feasibility of various projects, investments, and business initiatives by assessing their impact on cash flow.

v. Controlling Expenses. Monitoring actual cash flow against the budgeted figures enables businesses to identify areas of overspending and implement cost-control measures. It promotes financial discipline and helps in aligning expenses with revenue generation.

vi. Investment Planning. For individuals and businesses alike, a cash budget assists in planning for investments and capital expenditures. It ensures that sufficient funds are available for planned investments while maintaining liquidity for day-to-day operations.

Uses of a cash budget contd

vi. Debt Management. By incorporating debt repayments into the cash budget, entities can effectively manage their debt obligations. It helps in ensuring timely payments and avoiding late fees or penalties.

vii. Evaluation of Financial Performance. Regularly comparing actual cash flow with budgeted figures allows businesses to assess their financial performance. Discrepancies between projected and actual cash flow can highlight areas that require attention or improvement.

viii. Communication and Accountability. A cash budget serves as a communication tool within organizations, aligning different departments and stakeholders regarding financial objectives and resource allocation. It also fosters accountability by providing a benchmark against which actual performance can be measured.

ix. Risk Management. By anticipating cash flow fluctuations, businesses can better prepare for unexpected events and mitigate financial risks. A cash budget helps in identifying potential risks to cash flow and developing contingency plans to address them.

Steps in preparing a Cash Budget

1. Estimate the firm's Cash Outflows needs over a defined period of time.
2. Estimate the Cash inflows over the same period of time.
3. Determine the Net Periodic cash Balance.
4. Add to the existing cash at hand/bank to obtain a closing balance for a period

FORMAT OF A CASH BUDGET

Items/Details	Jan	Feb	March
REVENUE/CASH INFLOWS/RECEIPTS – A			
Cash Sales	XX	XX	XX
Collections from debtors	XX	XX	XX
Other Cash Inflows	XX	XX	XX
Total Revenue	XX	XX	XX
EXPENDITURE/Cash Outflows/Disbursements - B			
Salaries	XX	XX	XX
Rent	XX	XX	XX
Purchase of land		XX	
Purchases (Raw Materials)	XX	XX	XX
Total Expenditures	XX	XX	XX
RECONCILIATIONS			
Net Cash Balance (C) = (A – B)	XX	XX	XX
Add. Opening Cash Balance (D)	XX	XX	XX
Closing Cash Balance (C + D)	XX	XX	XX

Sources of information for preparing a Cash Budget

- Trading receipts
- Cashbooks
- Payment Vouchers
- Invoices
- Sales records/journals
- Quotations

Example on cash budget preparation

You are provided with the following information regarding YIET Initiative
The actual and forecasted sales and expenses are as follows;

Periods	**Sept 23**	**Oct 22**	**Nov 22**	**Dec 22**	**Jan 23**	**Feb 23**
Sales	140m	160m	100m	110m	110m	130m
Expenses	0	0	14m	18m	22m	22m

Additional information

i. 75% of total sales are on credit, 60% of credit sales are collected one month after sales and the remaining balance after two months from the date of sale.
ii. The company expects a gross profit margin of 30% and purchase relating to monthly sales are made and paid for in the same month.
iii. The company expects to purchase equipment worth 12m in January.
iv. The firm intends to acquire a 15% one year loan by the end of the month of November and payments amounting to UGX2m are expected to begin from the month of December on a monthly basis.
v. Dividend of 18m will be paid in December 2023 while the company pays Rent of UGX1.8m per month.
vi. by the end of October, the company had a negative bank balance of 20m and it normally requires 25m for optimal level operations.

Required;

Prepare a forecasted cash Budget for the Period from November 2022 to February 2023 for YIET Initiative

Solution

- To prepare a forecasted cash budget for YIET Initiative for the period from November 2022 to February 2023, we need to consider the cash flows from various sources and uses based on the provided information.
- Let's break down the cash budget into different sections:
- **Sales and Collections**
  - **September 2023 Sales:** 100% cash, so no collection in November 2022.
  - **October 2023 Sales:** 75% on credit, 60% collected in December 2022, and 40% collected in January 2023.
  - **November 2023 Sales:** 75% on credit, 60% collected in January 2023, and 40% collected in February 2023.
  - **December 2023 Sales:** 75% on credit, 60% collected in February 2023, and 40% collected in March 2023.
  - **January 2023 Sales:** 75% on credit, 60% collected in March 2023, and 40% collected in April 2023.
  - **February 2023 Sales:** 75% on credit, 60% collected in April 2023, and 40% collected in May 2023.

Expenses

- **Operating Expenses:** Including salaries, rent, and other monthly expenses.
- **Equipment Purchase:** In January 2023.
- **Loan Payments:** Starting from December 2022.
- **Dividend Payment:** In December 2023.

- **Cash Position**
  - **Initial bank balance:** Negative 20m in October 2022.
  - **Optimal bank balance:** 25m.
  - Calculate the closing balance for each month.

YIET Initiative

Forecasted cash budget

For the period from November 2022 to February 2023

Months	**Nov 22**	**Dec 22**	**Jan 23**	**Feb 23**
Sales	100m	110m	110m	130m
Collections				
Nov 22				
Dec 22	66m			
Jan 23	44m	66m		
Feb 23	52m	44m	66m	
Expenses				
Operating Expenses	14m	18m		
Equipment Purchase			12m	
Loan Payments		2m	2m	2m
Dividend Payment			18m	
Rent	1.8m	1.8m	1.8m	1.8m
Net Cash Flow	(15.8m)	(11.8m)	(26.2m)	(4.2m)
Bank Balance	(35.8m)	(47.6m)	(73.8m)	(78m)

Points to note about this cash budget

- Negative numbers represent cash outflows.
- The loan payment of UGX 2m starts in December 2022 and continues for one year.
- Dividend payment of UGX. 18m is made in December 2023.
- Rent is paid monthly at UGX1.8m.
- Equipment purchase of UGX12m is made in January 2023.
- The optimal bank balance is reached in February 2023.

Exercise on cash budget

You are provided with the following information regarding Mukwana enterprise limited.

The actual and forecasted sales and expenses are as follows:

		SALES:	EXPENSES:
Actual sales:	September 2023	120m	-
	October 2023	140m	-
Forecasted:	Nov 2023	60m	12m
	Dec 2023	80m	16m
	Jan 2024	80m	20m
	Feb 2024	100m	20m

75% 0f total sales are on credit and 60% of credit sales are collected one Month after sales and the remaining after two months. The company expects a profit margin of 30 %. There is a purchase of Equipment of 12m expected in January. Interest of 10% on a loan of 100m is to be paid after the end of each quarter. Dividends of 8m will be paid in Dec 2023. The company pays rent of SHS.800, 000 per month. By the end of October the company had a cash balance of 20m that should be maintained at the end of each period.

You are required to prepare a cash budget for the period Nov 2023 to Feb 2024 for Mukwana enterprise limited.

2. Debtors/Accounts Receivables

Debtors or accounts receivables represent amounts owed to the company by customers for goods sold or services rendered on credit.

Why sell on credit/why invest in Debtors

There are several reasons why businesses may choose to sell on credit or invest in debtors.

i. Increased Sales. Offering credit terms to customers can attract more sales, as it allows them to purchase goods or services without having to pay immediately. This can be especially advantageous for businesses targeting customers who prefer to defer payment or who have limited cash on hand at the time of purchase.

ii. Competitive Advantage. In industries where competitors offer credit terms, not doing so can put a business at a disadvantage. By providing credit options, a business can remain competitive and attract customers who value the flexibility of paying over time.

Why sell on credit/why invest in Debtors continued

iii. Customer Relationships. Selling on credit can help build stronger relationships with customers by offering them flexibility and convenience in their purchasing decisions. This can lead to repeat business and customer loyalty over time.

iv. Revenue Recognition. Selling on credit allows businesses to recognize revenue at the time of sale, even if payment is received later. This can help smooth out revenue streams and improve financial reporting accuracy.

v. Market Expansion. Offering credit terms can enable businesses to expand into new markets or serve customers who may not have been able to afford their products or services otherwise. This can open up opportunities for growth and increased market share.

vi. Liquidity. Accounts receivable represent future cash inflows, and investing in debtors allows businesses to convert these receivables into cash more quickly through techniques like factoring or discounting. This can improve liquidity and provide funds for operational needs or investments.

Why sell on credit/why invest in Debtors continued

vii. Risk Management. By carefully managing credit policies and evaluating customer creditworthiness, businesses can minimize the risk of bad debts and defaults. Investing in debtors with low credit risk can help maintain a healthy cash flow and protect against losses.

viii. Optimizing Working Capital. Efficient management of accounts receivable can optimize working capital by reducing the time it takes to collect payments from customers. This can free up capital for other uses and improve overall financial performance.

ix. Interest Income. In some cases, businesses may earn interest income on overdue accounts receivable or late payment penalties, providing an additional source of revenue.

Costs Associated with Credit Sales

i. Administration Costs. Establishing a credit department within a business incurs various expenses, including salaries for personnel, allowances for fuel and communication (such as airtime and data). These costs are necessary for the effective operation of the credit department, facilitating activities like credit assessment, monitoring, and management, but they also represent a financial burden to the business.

ii. Financing Costs. When a business borrows funds to fulfill customer orders or maintain operations, it incurs financing costs in the form of interest payments and possibly other fees associated with obtaining and servicing the loan. These costs contribute to the overall expense of doing business and can impact profitability.

iii. Bad Debt Losses. Bad debt losses occur when customers fail to fulfill their financial obligations, resulting in the inability of the business to recover the owed amount. Such losses directly impact the financial health of the business, reducing its net income and

Costs Associated with Credit Sales

v. Litigation Costs/Legal Fees. Legal disputes or the need to enforce contracts may lead to litigation, requiring businesses to incur legal fees and related expenses. These costs can escalate quickly and represent a drain on financial resources, particularly if prolonged legal battles ensue.

vi. Disruption of Cash Flows. Any factors that disrupt the regular inflow and outflow of cash within a business can have detrimental effects on its operations. This disruption can lead to liquidity challenges, making it difficult for the business to meet its financial obligations or invest in growth opportunities.

vii. Collection Costs. The process of collecting payments from customers entails various expenses, including personnel salaries, administrative overheads, and possibly legal fees in cases of delinquent accounts. These costs are incurred as businesses strive to ensure timely receipt of payments owed to them, thereby maintaining healthy cash flow and financial stability.

Determinants of the level of investments in trade receivables

i. **Credit Policies:** The credit policies set by the company significantly impact the level of trade receivables. More liberal credit policies, such as offering longer credit periods or relaxed credit standards, can lead to higher levels of accounts receivable.

ii. **Industry Norms:** The industry in which the company operates can dictate the average payment terms and credit practices. Companies may need to align their credit policies with industry standards to remain competitive, which could affect the level of trade receivables.

iii. **Customer Base:** The composition of the customer base can influence accounts receivable levels. Businesses dealing with a large number of small customers might experience higher levels of receivables compared to those with a few large clients.

Determinants of the level of investments in trade receivables continuation

iv. Sales Volume: Higher sales volume typically leads to increased trade receivables since there are more credit sales being extended to customers.

v. Creditworthiness of Customers: The creditworthiness of customers is crucial in determining the level of trade receivables. Companies may need to conduct credit checks and assessments to minimize the risk of bad debts. Higher-risk customers may require stricter credit terms or lower credit limits, which could impact receivables levels.

vi. Terms of Sale: The terms of sale, including payment deadlines and discounts for early payment, can affect the level of trade receivables. Offering discounts for prompt payment may incentivize customers to pay earlier, reducing the Average Collection Period.

Determinants of the level of investments in trade receivables continued

vii. Economic Conditions: Economic factors such as interest rates, inflation, and economic growth can influence the level of trade receivables. During economic downturns, customers may delay payments or default on their obligations, leading to higher accounts receivable levels.

viii. Efficiency of Collection Processes: The efficiency of a company's collection processes and the effectiveness of its credit management practices can impact the level of trade receivables. Streamlined collection procedures and timely follow-up on overdue accounts can help reduce the Average Collection Period and improve cash flow.

ix. Seasonality: Seasonal fluctuations in sales can also affect the level of trade receivables. Businesses experiencing peak sales periods may see a corresponding increase in accounts receivable as credit sales rise.

x. Competitive Pressures: Competitive pressures within the industry may influence credit terms and payment conditions. Companies may adjust their credit policies to attract customers or retain market share, which can impact the level of trade receivables.

Credit Management Policy

- A credit policy constitutes a structured framework or series of policy actions aimed at mitigating the costs linked with extending credit while simultaneously maximizing the advantages derived from it. By establishing a credit policy, businesses can systematically address crucial questions regarding the allocation of resources towards accounts receivable management, ensuring optimal utilization of financial assets.
- Determining the appropriate level of investment in accounts receivable is a central aspect of a credit policy. This decision involves evaluating the balance between the benefits of extending credit to customers and the associated risks. It entails considerations such as how much inventory should be sold on credit, striking a balance between maximizing sales opportunities and minimizing the risk of bad debt.
- The optimal allocation of goods sold on credit is pivotal. Selling too much on credit increases the risk of bad debt, where customers fail to make timely payments or default altogether, leading to financial losses for the business. Conversely, selling too little on credit can limit the advantages derived from credit sales, such as increased sales volume, customer loyalty, and market competitiveness.

Components of a Credit Policy

i. Credit Standards. Establishing clear criteria for evaluating the creditworthiness of potential customers is essential. Credit standards define the qualifications and requirements customers must meet to be granted credit, helping **mitigate the risk of default and bad debt.**

ii. Credit Terms. Defining the terms and conditions under which credit is extended is crucial for managing cash flow and minimizing financial risk. This includes specifying payment deadlines, interest rates (if applicable), and any penalties for late payments.

iii. Credit Collection Efforts. Implementing effective strategies for credit collection is essential for ensuring timely receipt of payments owed. This involves establishing procedures for monitoring customer accounts, following up on overdue payments, and, if necessary, employing collection agencies or legal recourse to recover outstanding debts.

Inventory

Inventory refers to the goods and materials held by a company for production, storage, or sale.

Categories of Inventory

- **Raw Materials.** Inputs used in the production process, such as raw materials, components, and subassemblies.
- **Work-in-Progress (WIP).** Partially completed goods that are in various stages of production but have not yet been finished.
- **Finished Goods.** Completed products ready for sale to customers or distribution to retailers.

Motives of Holding Inventory

- **Transaction Demand.** To meet the demand for goods and services from customers.
- **Precautionary Demand.** To guard against unforeseen disruptions in the supply chain or production process.
- **Speculative Demand.** To take advantage of potential price fluctuations or shortages in the market.

Costs of Investing in Inventory

i. Procurement Costs. These are the expenses incurred when purchasing inventory from suppliers or manufacturers. Procurement costs may include the cost of goods, shipping fees, import duties, and any other charges associated with acquiring the inventory.

ii. Holding Costs. Holding or carrying costs refer to the expenses incurred to store and maintain inventory until it is sold. These costs encompass warehouse rent or lease payments, utilities, insurance, security, depreciation of storage equipment, and inventory management software.

iii. Obsolescence Costs. Over time, inventory items may become obsolete or outdated, resulting in losses for the business. Obsolescence costs include the decline in value or loss of revenue associated with holding obsolete inventory, as well as costs related to disposing of or liquidating outdated stock.

Costs of Investing in Inventory

iv. Inventory Financing Costs. Financing inventory purchases through loans, lines of credit, or other forms of credit incurs financing costs such as interest payments, loan fees, and the opportunity cost of tying up capital in inventory rather than investing it elsewhere.

v. Handling and Transportation Costs. These costs encompass expenses related to transporting inventory from suppliers to the warehouse or distribution centers, as well as internal handling costs associated with moving, sorting, and organizing inventory within the facilities.

vi. Stockout Costs. Stockouts occur when inventory levels are insufficient to meet customer demand, resulting in lost sales, customer dissatisfaction, and potential damage to the business's reputation. Stockout costs include lost revenue, rush shipping fees to replenish inventory quickly, and potential long-term consequences such as customer defection.

vii. Inventory Shrinkage Costs. Inventory shrinkage refers to the loss of inventory due to theft, damage, spoilage, or administrative errors. Shrinkage costs encompass the direct financial losses associated with missing or damaged inventory, as well as the indirect costs of implementing security measures, conducting investigations, and implementing inventory control measures to prevent future losses.

Dangers of Maintaining Low Levels of Inventory

i. Stockouts and Lost Sales. Low inventory levels increase the risk of stockouts, where businesses are unable to meet customer demand due to insufficient stock on hand. This can result in lost sales, dissatisfied customers, and potential damage to the business's reputation. Customers may turn to competitors to fulfill their needs, leading to a loss of market share and revenue.

ii. Disruption of Operations. Inadequate inventory levels can disrupt business operations, especially in industries with unpredictable demand patterns or long lead times for replenishing stock. Production delays, backorders, and missed deadlines can occur when businesses cannot fulfill orders due to low inventory levels, leading to operational inefficiencies and increased costs.

iii. Inability to Capitalize on Opportunities. Maintaining low inventory levels may limit a business's ability to capitalize on unexpected sales opportunities or market fluctuations. Businesses with insufficient inventory may miss out on bulk purchase discounts, seasonal demand surges, or sudden shifts in consumer preferences, resulting in lost revenue and competitive disadvantages.

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Dangers of Maintaining Low Levels of Inventory

iv. Increased Ordering and shipping Costs. Maintaining low inventory levels often necessitates more frequent ordering and smaller order quantities, leading to higher procurement and shipping costs per unit. Businesses may incur additional expenses associated with rush orders, expedited shipping, or emergency replenishments to maintain minimal inventory levels, eroding profit margins over time.

v. Risk of Supply Chain Disruptions. Relying on lean inventory levels leaves businesses vulnerable to supply chain disruptions, such as delays in raw material deliveries, production interruptions, or transportation bottlenecks. Any disruptions upstream in the supply chain can quickly cascade downstream, impacting a business's ability to maintain adequate inventory levels and fulfill customer orders.

vi. Decreased Flexibility and Responsiveness. Low inventory levels limit a business's ability to respond quickly to changing market conditions, customer preferences, or unforeseen events. Without sufficient buffer stock, businesses may struggle to adapt to fluctuations in demand, product shortages, or sudden disruptions in the supply chain, hindering their agility and competitiveness.

vii. Underutilization of Resources. Maintaining excessively low inventory levels may result in underutilization of resources, such as production capacity, warehouse space, and labor. Businesses may miss opportunities to optimize economies of scale, streamline production processes, or leverage bulk purchasing discounts by operating with minimal inventory buffers.

Objectives of Inventory Management

i. Ensure adequate stock levels to meet customer demand without excess or shortage. Minimize carrying costs and optimize inventory turnover to maximize efficiency.

ii. Improve supply chain visibility and responsiveness to changes in demand or market conditions.

iii. Mitigate risks associated with inventory obsolescence, spoilage, or loss.

Inventory management techniques

To manage inventories efficiently, answers to the following questions should be sought.

- How much should be ordered?
- When should it be ordered?

The first question relates to the problem of determining the Economic Order Quantity **(EOQ)** and is answered with an analysis of costs of maintaining a certain level of inventories. The second question arises because of uncertainty and it is a problem related to determining the **re-order point.**

Inventory management techniques

Inventory management encompasses various techniques and strategies aimed at effectively controlling and optimizing the flow of goods within a business. Some key inventory management techniques include.

1. ABC Analysis

This technique categorizes inventory items into three groups based on their importance and value. "A" items are high-value items that contribute significantly to revenue, "B" items are of moderate value, and "C" items are low-value . By prioritizing resources and attention on managing high-value items, businesses can allocate resources more efficiently.

Example

Let's say we're managing inventory for a retail store that sells electronic gadgets. We'll categorize the inventory into three groups:

Category A: High-Value Items

Category B: Moderate-Value Items

Category C: Low-Value Items

To perform ABC analysis, we'll first need to gather data on the sales value of each item over a certain period, typically a year.

Let's assume we have the following data for our store:

Item code	**Annual Sales Volume**
001	50M
002	30M
003	20M
004	15M
005	10M
006	8M

Solution to example

Step 1: Calculate the total annual sales value for all items.

TASV = 50M + 30M + 20M + 15M + 10M + 8M = 133M

Step 2: Determine the percentage of the total sales value each item represents

$$\text{Percentage} = \frac{(50)}{133} x\ 100$$

For Item 001 = 37.6%

Solution to example continued

For Item 002 = $\text{Percentage} = \frac{(30)}{133} x\ 100$

= 22.6%

For Item 003= $\text{Percentage} = \frac{(20)}{133} x\ 100$

= 15%

$\text{Percentage} = \frac{(18)}{133} x\ 100$

For Item 004 $\text{Percentage} = \frac{(10)}{133} x\ 100$

= 11.3%

For Item 005

= 7.6%

For Item 006

= 6%

Step 3: Rank the items in descending order of their annual sales value percentages

- Item 001: 37.6%
- Item 002: 22.6%
- Item 003: 15%
- Item 004: 11.3%
- Item 005: 7.6%
- Item 006: 6%

Step 4: Calculate the cumulative percentage for each item as you move down the list.

- Cumulative Percentage = Sum of Percentage up to that item
- Item 001: 37.6% (No items above it, so its cumulative percentage is the same as its percentage)
- Item 002: 37.6% (37.6% from Item 001)
- Item 003: 52.6.% (37.6% from Item 001 + 22.6% from Item 002)
- Item 004: 63.9% (37.6% from Item 001 + 22.6% from Item 002 + 15% from Item 003)
- Item 005: 71.5% (37.6% from Item 001 + 22.6% from Item 002 + 15% from Item 003 + 11.3% from Item 004)
- Item 006: 77.5% (37.6% from Item 001 + 22.6% from Item 002 + 15% from Item 003 + 11.3% from Item 004 + 7.6% from Item 005)

So, the cumulative percentages for each item are as follows:

- Item 001: 37.6%
- Item 002: 60.2%
- Item 003: 75.2%
- Item 004: 86.5%
- Item 005: 94.1%
- Item 006: 100% (Since it's the last item, the cumulative percentage reaches 100%)

Step 5: Categorize items into A, B, and C based on their cumulative percentages

Based on the cumulative percentages calculated:

Category A: The top 20% of items contributing to about 80% of the total sales value.

This category includes Item 001 and Item 002, as their cumulative percentages fall within the top 20%.

Category B: The middle 30% of items contributing to about 15% of the total sales value.

This category includes Item 003 and Item 004, as their cumulative percentages fall within the next 30%.

Category C: The bottom 50% of items contributing to the remaining 5% of the total sales value.

This category includes Item 005 and Item 006, as their cumulative percentages fall within the bottom 50%.

So, categorizing the items

- Category A: Item 001 and Item 002
- Category B: Item 003 and Item 004
- Category C: Item 005 and Item 006

Just-in-Time (JIT) Inventory technique

JIT inventory management aims to minimize inventory holding costs by ordering and receiving inventory only when needed for production or to fulfil customer orders. This approach reduces the need for excess inventory storage and helps businesses operate with leaner inventory levels, improving efficiency and reducing waste. It is also known as **TPS (Toyota Production System).**

Just-in-time (JIT)

- This approach challenges the basic tenets (principles) of EOQ. It argues that there is no need to acquire and hold inventory in the organization until the time of utilization. It is also referred to as TPS (Toyota Production System) .
- The basic requirements that facilitate use of J.I.T. include:

Just-in-time (JIT) continuation

i) The firm must know its production schedules such that you can tell the timing of inventory requirements.

ii) The Firm must be organizationally efficient such that there are no internal rigidities that delay inventory acquisition and handling.

iii) Supplier relationships must exist such that reliability of supplier is established.

iv) Geographic concentration i.e. relatively short transit times (distances) from the vendor to the customers' plant

v) Controlled transport system. The firm must own the delivery trucks or the trucks should be under contract to them

Inventory management techniques

To manage inventories efficiently, answers to the following questions should be sought.

- How much should be ordered?
- When should it be ordered?

The first question relates to the problem of determining the Economic Order Quantity **(EOQ)** and is answered with an analysis of costs of maintaining a certain level of inventories. The second question arises because of uncertainty and it is a problem related to determining the **re-order point.**

Economic Order Quantity (EOQ)

- This is the most used approach in attaining the goals of inventory management.
- It uses the EOQ model to determine the optimal amount of inventories to order and to keep, an amount that minimizes the cost of inventory while assuring liquidity to the firm
- **Economic Order Quantity** is the level of inventory that minimizes the total inventory holding costs and ordering costs.
- EOQ is a formula used to determine the optimal order quantity that minimizes **total inventory costs, including ordering costs and holding costs.** By calculating the EOQ, businesses can strike a balance between the costs of ordering too frequently (resulting in higher ordering costs) and ordering in large quantities (resulting in higher holding costs).

Economic order quantity (EOQ)

Ordering cost:

This term is used in case of raw materials (or supplies) and includes the entire costs of acquiring the raw materials such as costs incurred in the following activities: cost in preparing and dispatching orders such as requisitioning, purchase ordering, transportation, receiving, inspecting and storing the materials. These are costs incurred right from the time the orders of inventory are placed to when the order is actually received and placed in the business premises.

Economic order quantity (EOQ)

Holding cost / carrying costs

These are costs incurred for maintaining a given level of inventory from the time of receipt to the time they enter the production or marketing functions. They include storage charges, opportunity cost of funds tied up in inventories, lighting, insurance, security, heating and other charges like taxes, losses due to deterioration and obsolescence, demurrage and other causes e.g. pests.

Underlying assumptions of EOQ

- The ordering cost is constant.
- The rate of demand is constant
- The lead time is fixed. ***A lead time*** is the period of time between the initiation of any process of production and the completion of that process. For example, the lead time for ordering a new car from a manufacturer may be anywhere from 2 weeks to 6 months
- The purchase price of the item is constant i.e. no discount is available
- The replenishment is made instantaneously; the whole batch is delivered at once.
- EOQ is the quantity to order, so that **ordering cost** + **carrying cost** finds its minimum.

Economic order quantity (EOQ)

Variables

Q = order quantity

Q^* = optimal order quantity (EOQ)

D or A = annual demand (requirement) quantity of the product

P = purchase cost per unit

S or O = fixed ordering cost per order (*not* per unit, in addition to unit cost)

H or C = annual holding cost per unit (also known as carrying cost or storage cost) (warehouse space, refrigeration, insurance, handling, clerical staff ,warehousing etc. usually not related to the unit cost)

The Total Cost function:

- The single-item EOQ formula finds the minimum point of the following cost function:

  Total Cost = purchase cost + ordering cost + holding cost

Economic order quantity (EOQ)

- *Purchase cost*: This is the variable cost of goods: purchase unit price × annual demand quantity. This is **P×D**

- *Ordering cost*: This term is used in case of raw materials (or supplies) and includes the entire costs of acquiring the raw materials such as costs incurred in the following activities: requisitioning, purchase ordering, transportation, receiving, inspecting and storing the materials.

It is the cost of placing orders: each order has a fixed cost S, and we need to order **D/Q** times per year. This is **S × D/Q**

- *Holding cost / carrying costs:* These are costs incurred for maintaining a given level of inventory. They include storage, insurance, taxes, deterioration and obsolescence. The average quantity in stock (between fully replenished and empty) is **Q/2,** so this cost is **H × Q/2**

$$TC = PD + \frac{DS}{Q} + \frac{HQ}{2}.$$

Economic order quantity (EOQ)

To determine the minimum point of the total cost curve, set the ordering cost equal to the holding cost:

$$\frac{DS}{Q} = \frac{HQ}{2}$$

Solving for Q gives Q* (the optimal order quantity):

$$\frac{H}{2} = \frac{DS}{Q^2}$$

$$Q^2 = \frac{2DS}{H}$$

Therefore: $$Q^* = \sqrt{\frac{2DS}{H}}$$.

Economic order quantity (EOQ)

-Number of orders = $\frac{D}{EOQ}$

-Total ordering costs = $\frac{D}{EOQ} \times O(S) = \frac{DS}{Q}$

-Total carrying costs = $\frac{Q}{2} \times C(H) = \frac{HQ}{2}$

Total relevant costs TC = $\frac{DS}{Q} + \frac{HQ}{2}$

= Total ordering cost +Total carrying cost

TC = $\frac{D}{EOQ} \times O(S) + \frac{Q}{2} \times C(H)$

TC = $\frac{DS}{Q} + \frac{HQ}{2}$

Economic Order Quantity (EOQ)

Let's consider a hypothetical scenario for a retail business that sells a particular product, say laptops. This business wants to optimize its inventory management using the Economic Order Quantity (EOQ) technique.

Assumptions

- **Demand:** The business forecasts an annual demand of 1,200 laptops.
- **Ordering cost:** The cost incurred each time an order is placed is $50.
- **Holding cost:** The annual holding cost per unit of laptop is estimated to be $10.
- **Lead time:** The lead time between placing an order and receiving it is negligible
- **No quantity discounts** or other special considerations are taken into account.

How to calculate EOQ using the formula

Given these assumptions, we can calculate the Economic Order Quantity (EOQ) using the formula:

$$EOQ = \frac{\sqrt{2 \text{ x D x S}}}{\text{H}}$$

Where:

D = Annual demand (in units)

S = Ordering cost per order H =

Holding cost per unit per year

Using the given values:

$$EOQ = \frac{\sqrt{2 \text{ x } 1200 \text{ x } 50}}{10}$$

$$EOQ = \frac{\sqrt{120000}}{10}$$

$$EOQ = \frac{\sqrt{12000}}{}$$

EOQ = 109.54

Calculation of Total Annual Cost (TAC

Now, since we can't order a fraction of a laptop, we round up to the nearest whole number. Therefore, the optimal order quantity is approximately 110 laptops per order.

Next, we can calculate the total annual cost (TAC) associated with this EOQ

$$TAC = \frac{D}{EOQ} \text{ x } S + \frac{EOQ}{2} x\ H$$

$$= \frac{1200}{110} \text{ x } 50 + \frac{110}{2} x\ 10$$

$$= (10.91 \times 50) + (55 \times 10)$$

$$= 545.5 + 550$$

$$\mathbf{= 1095.5}$$

So, the total annual cost associated with this EOQ is approximately $1,095.50.

Calculation of the number of orders

Number of orders = $\frac{\text{The Annual demand}}{\text{Calculated EOQ}}$

$$\frac{D}{EOQ}$$

$$\frac{1200}{110} = \textbf{11 orders}$$

Exercise for class /group discussion

Uganda Daily Cooperators (UDC) sell milk products and the demand for the products is 30,000 containers per year costing SHS.500 per unit. Ordering costs are SHS.7, 000 per order while carrying costs are 20% of the production cost. The demand in the next year is expected to increase by 50% and the company's objective is to minimize inventory costs

Required;

A) Determine the present EOQ for UDC. **EOQ = 2049**

B) What would be the optimal number of orders per year at the level of EOQ in a) above The optimal no. of orders = **30,000/2049 = 15 orders**

C) Determine the total cost of inventory at that level =

Total ordering cost + Total holding cost = **204,939**

D) What would happen to the EOQ for the company if the number of sales level is reduced or increased?

Vendor-Managed Inventory and Just-in-Case (JIC) Inventory

Vendor-Managed Inventory (VMI)

- In VMI, suppliers manage the inventory levels of their customers by monitoring stock levels and replenishing inventory automatically. This collaborative approach streamlines the supply chain, reduces stockouts, and minimizes excess inventory, leading to improved efficiency and cost savings for both parties.
- **Just-in-Case (JIC) Inventory**
- Unlike JIT, JIC involves maintaining safety stock or buffer inventory to mitigate the risk of stockouts due to demand variability or supply chain disruptions. While JIC increases inventory holding costs, it provides a cushion against uncertainties and helps ensure continuity of operations.

Demand Forecasting and Replenishment, Cross-Docking and Radio Frequency Identification

Demand Forecasting and Replenishment

•Utilizing historical sales data, market trends, and predictive analytics, businesses can forecast future demand for inventory items and adjust replenishment orders accordingly. Accurate demand forecasting minimizes stockouts, reduces excess inventory, and improves customer satisfaction.

Cross-Docking

•Cross-docking involves transferring incoming inventory directly from receiving docks to outbound shipping docks, bypassing storage in the warehouse. This technique reduces handling and storage costs, shortens order fulfilment times, and improves overall supply chain efficiency.

RFID and Barcode Technology

•Implementing RFID (Radio Frequency Identification) tags or barcode systems enables businesses to track inventory in real-time, streamline inventory counting and reconciliation processes, and reduce errors associated with manual data entry.

Accounts Payables/Creditors

Payables or creditors represent amounts owed by the company to suppliers, vendors, or service providers for goods or services purchased on credit.

Benefits of Accounts Payables as a Source of Finance

i. Cash Flow Management.

Accounts payable provide businesses with flexibility in managing cash flow by allowing them to defer payment for goods and services received. This flexibility can be particularly beneficial during periods of temporary cash shortages or when funds are needed for other strategic purposes, such as expansion or investment.

ii. Working Capital Optimization.

By leveraging trade credit, businesses can optimize their working capital management. Delaying payment to suppliers allows businesses to retain cash in the short term, which can be reinvested in revenue-generating activities or used to cover other operational expenses. This approach helps improve liquidity and operational efficiency.

iii. Cost-Efficiency.

Compared to other forms of financing, such as bank loans or lines of credit, accounts payable typically carry lower costs. Suppliers often offer favorable payment terms, such as extended payment periods or early payment discounts, which can result in cost savings for businesses. Taking advantage of these terms can improve overall financial performance and profitability.

Benefits of Accounts Payables as a Source of Finance continuation

iv. Preserves Ownership and Control.

Unlike equity financing, which involves selling ownership stakes in the business, accounts payables allow businesses to retain full ownership and control over their operations. This autonomy is crucial for maintaining strategic decision making authority and preserving the long-term interests of the business owners.

v. Supplier Relationships.

Effectively managing accounts payables fosters strong relationships with suppliers. Timely payments and adherence to agreed-upon terms demonstrate reliability and trustworthiness, which can lead to preferential treatment, such as priority access to inventory, better pricing, or extended credit terms in the future. These relationships contribute to the overall sustainability and competitiveness of the business.

vi. Risk Mitigation.

Accounts payable can serve as a buffer against unforeseen expenses or economic downturns. By maintaining a healthy level of trade credit, businesses can mitigate the risk of disruptions caused by cash flow shortages, supply chain disruptions, or fluctuations in demand. This resilience enhances the business's ability to weather challenges and remain financially stable over the long term.

Costs Associated with Accounts Payables/Creditors

i. Interest Expenses.

Delaying payments to suppliers beyond the agreed-upon terms may incur interest charges or penalties. These interest expenses can accrue over time, increasing the overall cost of financing through trade credit. Additionally, taking advantage of early payment discounts offered by suppliers may result in lower interest expenses, but it requires the allocation of funds before the due date, affecting cash flow management.

ii. Opportunity Costs.

By deferring payments to suppliers, businesses may miss out on opportunities to earn interest or returns on investment by retaining cash in interest-bearing accounts or investing in income-generating assets. The opportunity cost of holding onto funds rather than deploying them for alternative purposes should be considered when evaluating the cost-effectiveness of accounts payables.

iii. Administrative Costs.

Managing accounts payables involves administrative overhead, including staff time, resources, and technology expenses required for processing invoices, reconciling accounts, and communicating with suppliers. These administrative costs can add up, particularly for businesses with large volumes of transactions or complex supplier relationships.

Costs Associated with Accounts Payables/Creditors continuation

iv. Relationship Costs.

Delayed or late payments to suppliers can strain supplier relationships and erode trust and goodwill. Suppliers may impose penalties for late payments, revoke credit terms, or even refuse to do business with the company in the future. Repairing damaged supplier relationships or sourcing alternative suppliers can incur additional costs and disrupt supply chain operations.

v. Discount Costs.

While early payment discounts offered by suppliers can provide cost savings, businesses must weigh the benefits against the costs of early payment. Paying invoices early to take advantage of discounts may deplete cash reserves and reduce working capital available for other strategic initiatives or operational needs.

vi. Risk of Disruption.

Dependence on accounts payables as a source of financing exposes businesses to risks associated with supply chain disruptions or changes in supplier terms. Any disruptions in the supply chain, such as delays in deliveries or shortages of key materials, can have cascading effects on operations, production schedules, and customer satisfaction, potentially resulting in additional costs and revenue losses.

vii. Credit Risk.

Extending trade credit to customers exposes businesses to credit risk, the risk of non-payment or default. Businesses must assess the creditworthiness of customers and implement credit management practices to mitigate the risk of bad debts. The cost of credit risk includes potential losses from unrecoverable debts, as well as the costs of credit analysis, monitoring, and collection efforts.

Objectives of Accounts Payable Management

i. To **manage payment obligations** effectively to maintain positive supplier relationships and secure favorable terms.

ii. To **optimize cash flow** by balancing payment timing with available funds and strategic priorities.

iii. To **Minimize financing costs** and maximize discounts by leveraging payment terms and negotiating favorable agreements.

Dangers of Late Payment

i. Strained Relationships

Consistently paying suppliers late can strain relationships with creditors. This can lead to dissatisfaction on the part of suppliers and potentially damage long-term business partnerships. Suppliers may become reluctant to extend credit terms or offer discounts in the future.

ii. Penalties and Fees

Many suppliers impose penalties or late fees for overdue payments. These penalties can include interest charges or additional fees added to the outstanding balance. Over time, these additional costs can significantly increase the amount owed to creditors, reducing profitability.

iii. Supply Disruptions

Late payments can lead to disruptions in the supply chain. Suppliers may withhold or delay deliveries, impacting a business's ability to fulfill orders or maintain production schedules. Supply disruptions can result in lost sales, reduced customer satisfaction, and damage to the company's reputation.

Dangers of Late Payment continuation

iv. Loss of Discounts

Suppliers often offer discounts for early or prompt payment. By paying invoices late, businesses forfeit these discounts, resulting in higher overall costs. Over time, the cumulative impact of foregoing discounts can erode profit margins and competitiveness.

v. Damage to Reputation

Persistent late payments can damage a company's reputation within the industry. Suppliers may share information about late-paying customers with other businesses, potentially leading to difficulties in securing credit or negotiating favorable terms in the future. A reputation for late payments can also deter potential partners or investors

vi. Legal Action

In extreme cases, creditors may take legal action against businesses that consistently fail to pay on time. This can result in costly legal proceedings, judgments, or even bankruptcy if the debts remain unpaid. Legal disputes can damage the company's finances, reputation, and overall stability.

vii. Cash Flow Problems

Delayed payments can exacerbate cash flow problems for businesses. If accounts payable remain outstanding for extended periods, it can strain liquidity and hamper the company's ability to meet other financial obligations, such as payroll, rent, or loan payments. Cash flow shortages may necessitate borrowing at higher costs or selling assets to cover expenses.

viii. Credit Rating Impact

Late payments can negatively impact a company's credit rating and borrowing capacity. Creditors may report late payments to credit bureaus, affecting the business's credit score and making it harder to obtain financing or favorable terms from lenders in the future.

Determinants of the Level of Accounts Payables

i. Industry Norms. Different industries have varying practices and norms regarding payment terms and trade credit utilization. Businesses operating in industries where extended payment terms are common may have higher levels of accounts payable compared to those in industries with stricter payment terms.

ii. Supplier Relationships. The nature of relationships with suppliers can significantly influence the level of accounts payable. Strong, long-term relationships with suppliers may result in more favorable payment terms, allowing businesses to maintain higher levels of accounts payable. Conversely, strained or unstable supplier relationships may lead to tighter credit terms and lower levels of accounts payable.

iii. Cash Flow Management. The ability of a business to effectively manage its cash flow impacts its reliance on accounts payable. Businesses with stable cash flow may be able to negotiate longer payment terms with suppliers and maintain higher levels of accounts payable as a form of short-term financing. Conversely, businesses with irregular cash flow may need to minimize accounts payable to avoid liquidity issues.

iv. Financial Health. The financial condition of a business, including its liquidity, profitability, and solvency, influences its capacity to manage accounts payable. Financially robust businesses may leverage accounts payable strategically to optimize working capital and invest in growth opportunities. Conversely, financially constrained businesses may need to minimize accounts payable to reduce risk and conserve cash.

Determinants of the Level of Accounts Payables

v. Business Size and Growth Stage. The size and growth stage of a business can impact its level of accounts payable. Larger businesses with greater purchasing power and economies of scale may negotiate more favorable payment terms with suppliers and maintain higher levels of accounts payable. Conversely, smaller businesses or startups may have limited negotiating power and rely on shorter payment terms to manage cash flow and mitigate risk.

vi. Economic Conditions. Economic factors, such as interest rates, inflation, and economic stability, can influence the level of accounts payable. During periods of economic uncertainty or tight credit conditions, businesses may adopt more conservative approaches to accounts payable management to reduce risk exposure. Conversely, during economic expansion or low interest-rate environments, businesses may be more inclined to leverage accounts payable for short-term financing.

vii. Competitive Pressures. Competitive dynamics within an industry can impact the level of accounts payable. Businesses may strategically adjust their accounts payable levels to remain competitive, such as offering extended payment terms to customers or suppliers to attract or retain business.

Strategies for Managing Accounts Payables

i. Negotiate Favorable Payment Terms. Businesses should negotiate payment terms with suppliers that align with their cash flow needs and financial objectives. Requesting extended payment terms or early payment discounts can provide flexibility and cost savings, allowing businesses to better manage cash flow and working capital.

ii. Implement Robust Invoice Management Processes. Establishing streamlined processes for receiving, reviewing, and processing invoices can help prevent errors, delays, and discrepancies. Utilizing digital invoice management systems, automated approval workflows, and electronic payments can improve efficiency, accuracy, and transparency in accounts payable processing.

iii. Monitor and Analyze Accounts Payable Aging. Regularly monitoring accounts payable aging reports allows businesses to track outstanding balances, identify overdue payments, and prioritize payments based on urgency. Analyzing accounts payable aging trends can help identify patterns, assess payment patterns, and optimize cash flow management strategies.

iv. Centralize Accounts Payable Functions. Centralizing accounts payable functions within a dedicated department or team can improve accountability, consistency, and control over accounts payable processes. Consolidating invoices, standardizing procedures, and centralizing communication with suppliers can streamline operations and reduce inefficiencies.

Strategies for Managing Accounts Payables

v. Optimize Cash Flow Forecasting. Accurate cash flow forecasting enables businesses to anticipate cash inflows and outflows, plan for upcoming payment obligations, and optimize accounts payable management strategies accordingly. Leveraging cash flow forecasting tools and regularly updating forecasts based on changing business conditions can enhance liquidity management and mitigate risk.

vi. Leverage Technology Solutions. Implementing advanced accounting software, enterprise resource planning (ERP) systems, and electronic payment platforms can streamline accounts payable processes, enhance visibility, and improve collaboration with suppliers. Leveraging technology solutions can automate routine tasks, reduce manual errors, and facilitate real-time data analysis for informed decision-making.

vii. Establish Clear Communication with Suppliers. Maintaining open and transparent communication with suppliers is critical for managing accounts payable effectively. Proactively communicating payment expectations, addressing inquiries or disputes promptly, and negotiating mutually beneficial solutions can strengthen supplier relationships and foster trust.

viii. Monitor Key Performance Indicators (KPIs). Tracking relevant KPIs, such as days payable outstanding (DPO), payment accuracy, and invoice processing time, can provide insights into accounts payable performance and efficiency. Monitoring KPIs enables businesses to identify areas for improvement, benchmark performance against industry standards, and drive continuous process optimization.

Over trading

- Overtrading is sometimes referred to as **under capitalization. I**t is a term that is used to refer to a situation where an organization is having increasing trading or business activities, especially where trading is made on credit sales without sufficient funds (capital) to support such increasing trading activities
- Overtrading often occurs when a company expands its own operations too quickly (aggressively). It's a condition where a business sells too much too quickly and grows too rapidly. Essentially the business runs out of cash.

Over trading.

Overtraded companies enter a negative cycle, where increase in interest expenses negatively impacts net profit leading to lesser working capital leading to increase in borrowing leading to more interest expense and the cycle continues.
Overtraded companies eventually face liquidity problems and/or running out of working capital.

Causes of over trading

- Rapid growth in business development and sales.
- Having large amount of unpaid vendors.
- High / large amount of financial interest expenditure.
- Poor management practices / inefficient management
- Keen market competition.
- Overstocking or slow movement of inventory.
- Running a business with limited knowledge.
- Cash flow problems
- Unrealistic budgets.

Remedies to overtrading

Efficient working capital management such as;

- **Efficient inventory controls** (EOQ, JIT, maximum stock levels, Re-order level, minimum stock level)
- **Efficient receivable management** (check credit worthiness of customers, prompt invoicing, use of factor services and invoice discounting).
- **Proper cash management** – arranging for different sources of finance, to overcome the insufficient funding problems.

Remedies to overtrading continuation

- Such sources of funds may include, using leasing, hire purchase, short-to-medium-term loans, bank overdraft.
- In the long-term, the company may consider raising more equity finance by obtaining listing on the stock market etc.
- Overtrading can be a very big problem for companies, especially SMEs. Where such companies have increasing credit sales, growing business, but due to lack of funds, lack of assets to use as security for future loans, they find themselves being faced with such difficult situations.
- To protect against such occurrence, companies need to be aware of overtrading, its indicators and then put in place adequate measures to avoid its occurrence or reduce the probability of it occurring.

Signs of overtrading

- Although one cannot say for sure whether a company is overtrading or not, just by looking at its financial statements, and or performing simple ratio analysis of the organization's financial statements, the financial statement is still one of the most useful external source of information that may be available to an external stakeholder in making a decision as to whether a company may be overtrading or not.
- Some classic signs of overtrading or business failure include the following:

Signs of overtrading

1. **Need to borrow money to make it through each month**

Dipping into an overdraft occasionally is Okay & using a small business loan to get through a project is fine, but when you need to borrow cash regularly it's a warning sign. Business life has a habit of throwing unexpected costs at you now and again, and if your business doesn't have cash reserves to call on, it could be a problem. Remember that banks will not lend to businesses running up big debts and continuously dropping and small businesses are less likely to be offered business credit. Instead you may be asked to put your own personal assets up as collateral. Who would really want to risk his home to run a business with tight profit margins?

Signs of overtrading

2. **Continuously small Profit margins**

Low profit margins make business hard work. Some businesses operate in crowded marketplaces, and that usually has the effect of pushing prices down. This pushes profit margins down and affects cash flow. You have to work harder to get the sale in the first place, and really have to juggle the cash to make it work.

3. Late payments from customers

One of the effects of overtrading is a reduction in the speed of payments from customers. And for businesses that already have a delicate cash flow it can be a kiss of death. Be clear with all customers what your payment terms are and don't be afraid to chase after business money when it's late. It's your money that customers are unfairly holding onto.

Signs of overtrading

4. Key suppliers are getting nervous

Suppliers are very keen on how the businesses they supply operate. They will actually detect a problem before you do. They will have watched with delight on one hand as the amount of stuff you order goes up and with some concern on the other as your payments slow down. If you are experiencing problems or can see issues arising down the line, talk to your suppliers quickly. It's usually a lack of communication that makes people nervous.

Signs of Overtrading

5. Other signs include the following;

- Increasing credit sales volume
- Extended credit sales period taken by customers, than industry average
- Increasing sales without corresponding increase in profit
- Increasing inventory days, excessive investment in inventory, probably with no immediate need.
- Increasing and excessive reliance on trade payables as a source of funds for working capital needs

Other signs continued

- Extended trade payables periods, sometime the company takes involuntary trade payables period.
- Lack of cash in hand or at bank, hence excessive reliance on bank overdraft as a major source of finance for working capital activities
- Decrease in the company's liquidity ratios such as current ratio and quick ratio.

Over capitalization & working capital

- If a company raises more capital (by the issue of shares and debentures and through long-term loans) than is warranted by the figure of capitalization of its earning power, the company will be said to be over-capitalized.
- In other words, a company is over-capitalized when its actual profits are not sufficient to pay interest and dividends at proper rates. It follows that an over-capitalized company is unable to pay a fair return on its capital investment. Thus if a company earns shs. 1,500,000 with the general expectation at 10 per cent, capitalization at shs. 15,000,000 would be proper. But if the company, somehow, issues shares and debentures to the extent of shs. 25,000,000, the rate of earning will be only 6 per cent because with surplus but idle funds profits will still remain shs. 1,500,000. This company is over-capitalized.

Over capitalization and working capital

However, over-capitalization is not quite the same thing as excess of capital. A company is over-capitalized only because the existing capital is not effectively utilized with the result that there is a fall in the earning capacity, and consequently in the rate of dividend payable to equity shareholders. This usually leads to a decline in the market value of the shares.

Over capitalization and working capital

The chief sign of over-capitalization is, therefore, a fall in the rate of dividend over a long-term period. This means that over-capitalization presents chronic conditions and is not based on the results of only a few years. To emphasize this point, it may be stated that “when a company has consistently (regularly) been unable to earn the prevailing rate of return on its outstanding securities (considering the earnings of similar companies in the same industry and the degree of risk involved) it is said to be over-capitalized”.

Over capitalization results from the following ways

1) The enterprise may **raise more money** by issue of shares and debentures than it can profitably use. In other words, there may be large amounts of idle funds within the company. This may be done intentionally or unintentionally. Some companies, for instance, are tempted by a favorable sentiment in the market, and issue too large a number of shares.

(2) If a company **borrows a large sum of money** and has to pay a rate of interest higher than its rate of earning, the results will be over-capitalization. A major part of the earnings may be given away to the creditors as interest ,leaving little for the shareholders. The rate of dividend is thus lowered and the market value of the shares also declines.

Over capitalization results from the following ways

(3) Over-capitalization may often result when an **excessive amount is paid for goodwill and for fixed assets acquired** from the vendor company or from promoters or other people associated with the company, or when unduly high amounts are spent on establishment. In such cases, the price paid for the acquisition of a going concern has no relation to its earning capacity.

Over capitalization results from the following ways

4) Sometimes a company **acquires assets like plant, machinery and buildings during a boom period**. The price paid is naturally high. If the boom disappears and a slump sets in, the real value of such assets will greatly decline and a large part of the company's capital would be lost even though the books will still show the assets and the capital at their previous figures. Such a company is over-capitalized because its real earnings capacity will suffer a setback due to a fall in the value of assets, whereas the capital will stand at its original figures

Over capitalization results from the following ways

(5) If a company **does not make sufficient provision for depreciation and replacement** and distributes higher rates of profit amongst the shareholders, the company will find after some time that, while the book value of assets is high, the real, value is extremely low. The efficiency of the company is adversely affected and its earnings go down thus bringing down the market value of the shares. This is yet another case of over-capitalization.

(6) High rates of taxation may leave little in the hands of the company to provide for depreciation and replacement and dividend to shareholders. This may adversely affect its earnings capacity and lead to over-capitalization.

(7) When the **promoters underestimate the capitalization rate**, the capitalization may not support the expected rate of earnings and over-capitalization may result.

Consequences of over capitalization

1. From the company's point of view

(a) over-capitalization will result in considerable **reduction of the rate of dividend** on the equity shares issued. This is because the profits which the company earns have to be distributed over an unnecessarily large number of shares.

(b) With the disappearance or reduction of dividends, the **market value of the shares falls**, and the investors lose confidence in the company. The credit worthiness of the company suffers a setback. Should a company require more funds for the purposes of bringing about any improvement or acquiring new assets, it will find it extremely difficult to raise the necessary funds from the market.

Consequences of over capitalization

(c) Sometimes the company **resorts to questionable practices including 'window dressing' in order to show a respectable figure** of profits. Some people are downright dishonest and merely cook up an increase. Others avoid necessary expenditure so that the debit in the statement of comprehensive income is reduced. In the latter case, the efficiency of the company will still further be undermined. For example, if maintenance of machinery and repairs to machinery are postponed, the damage to the machinery will be very heavy and the efficiency would greatly be reduced. This will further reduce profits.

Consequences of over capitalization continued

(d) It is often found that an over-capitalized company has to go **into liquidation**, unless drastic steps are taken to re-organize the share capital. Re-organization would again mean considerable loss of goodwill.

Consequences of over capitalization

2. From the point of view of society

(a) Over-capitalization is an indication of **reduced efficiency**. An over-capitalized concern is compelled to raise the prices of its products. With diminished efficiency it is usually not able to maintain the quality of its products. Thus, the public is a loser both as regards price and quality.

(b) An over-capitalized company may try to raise its profits by **effecting cuts in wages of workers**. This may affect industrial relations.

(c) Since an over-capitalized concern is unable to compete with other concerns, **it may have to close down**. The closure of a few companies in this manner may well become the cause of general panic and alarm. This would affect the interests of the creditors. The workers would also lose their jobs.

Consequences of over capitalization

(d) Over-capitalization results in **misapplication of society's resources.** The capital lying idle or being under-utilized by an over-capitalized firm can better be utilized by other concerns which are in need of funds.

(e)An overcapitalized company can **no longer be able to give back to society through Corporate Social Responsibility**.

(f) The shares of an over-capitalized concern provide scope for **gambling on the stock exchange**. It is undesirable from the social point of view.

Consequences of over capitalization

3. From the shareholders' point of view

(a) Over-capitalization means **depreciation of investment**. The shares of an over-capitalized company sell below par in the market. Originally, the shareholders may have paid much more for them.

(b) The shareholders have also to suffer due to **a low return on their investment** which, too, is not always certain and regular.

(c) The shares of an over-capitalized company have **relatively small value as security for loans** which a shareholder may like to raise.

Consequences of over capitalization

(d) The low-priced shares of an over-capitalized concern are subject to **speculative gambling**. This harms the interests of the real investors.

(e) When an over-capitalized concern tries to set its house in order through reorganization, the shareholders are the worst sufferers. Re-organization would usually take the form of reduction of capital for writing off past losses. Such **a reduction has to be borne by the shareholders**. In the event of liquidation too, the shareholders have to content themselves with much less than their original investment.

Remedies of over-capitalization

The following remedial steps may be adopted to handle over-capitalization:

(i) Redemption of bonds through outright re-organizations. If bonds are redeemed with cash received through the issue of more shares, it will only make matters worse. An over-capitalized company must, therefore, go for complete re-organization and utilize its accumulated earnings for the purpose.

Remedies of over-capitalization

(ii) Reduction of interest on bonds, if the existing debenture-holders are given new debentures carrying lower rates of interest, it will alleviate the situation created by over-capitalization. However, this can be done by offering some premium to the debenture-holders. If the said premium is more than the economy in interest payments, the measure will lose its weight.

(iii) Reduction of preferred stock. If it carries high dividend rate, this can be tried in cases where the preferred stock is cumulative.

Remedies of over-capitalization

(iv) Reduction in the number of equity shares. This can again be tried with the consent of the shareholders. All the measures indicated above involve re-organization. It may, therefore, be suggested in conclusion that **the remedy for over-capitalization lies through re-organization**

END OF SESSION EIGHT