LESSON -10

WORKING CAPITAL MANAGEMENT- AN OVERVIEW

10.0 Objective :

After studying this lesson, you are able to:

* identify the need for and concepts of working capital
* know the evils of excess and dangers of inadequate working capital
* identify the determinants of the size of working capital of a business firm
* explain the sources of working capital and financing policies
* highlight the importance of optimal investment on current assets
* explain the liquidity Vs profitability and their *Trade* off
* illustrate the impact of working capital policies on the performance of a business firm

Structure:

10.1 Introduction
10.2 Concept of Working Capital
10.3 Operating Cycle and its significance
10.4 Evils of excess working capital
10.5 Dangers of inadequate working capital
10.6 Determinants of working Capital
10.7 Types of working Capital
10.8 Sources of Working capital
10.9 Working Capital Financing Policies
10.10 Optimal size of current Assets
10.11 Liquidity Vs. Profitability
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10.1 Introduction:

Working Capital is said to be the lifeblood of a business. Management of working capital has been treated as the vital function of financial management in modern business. It is highly flexible in nature and polices and to be framed depending upon the market conditions prevailing in the economy. It is an attempt to manage and control the current assets and the current liabilities in order to maximize profitability and maintain proper liquidity in business. It involves control of the components of current assets such as cash, inventories, accounts receivables, marketable securities and current liabilities such as short - term debt, creditors, bank loans, etc. If controlling of working capital components is improved or reduced by one percent, it will make so much difference and the firm making profits will turnout to be loosing and firm incurring losses will become profitable.

10.2 Concepts of Working Capital:

There are two concepts of working capital – gross and net.

(i) Gross working capital

It refers to the firm's investment in current assets such as inventories, cash, accounts receivables, debtors, etc., which can be converted into cash in short notice focuses attention on management of current assets. Investment in current assets should be adequate, since inadequate investment causes solvency problems. Thus, working capital is necessary to run a business firm and to meet day - to - day expenses. Without current assets, it is not imaginable to make sales and maximize profits. Cash is generated through sales, which is possible with the investment in inputs such as raw materials, consumables, labor, etc., hence working capital is necessary for acquiring inputs.

(ii) Net working Capital:

It is the excess of current assets over current liabilities. Net working capital can be positive or negative. It is conventional to maintain sufficiently excess current assets. It is a conventional rule to maintain the level of current assets twice that of current liabilities. Net working capital is a judicious mix of long term and short-term funds for financing current assets. However a minimum amount of net working capital is permanent and therefore it is necessary to finance with long-term capital. Weak liquidity position is a threat to the solvency of the company.

Both gross and net working capital is necessary for a firm. Any size of current assets can be maintained by raising short-term debts. So, a prudential management will see long-term funds go into working capital, so as to be stable. Hence, a firm if maintains high net working capital is said to be sound. It does not mean that net working capital is to be too high. High net working capital i.e., the difference between current assets and current liabilities is too high; it sounds idle current assets. Idle current assets may be in the form of bad debts, unmoving inventories, etc. Hence, too high net working capital is not a sound indication.

10.3 Operating Cycle:

Operating cycle is the time duration required to convert sales, after the conversion of resources into inventories, into cash**.** The cash will not earn cash unless it is invested in inputs such as labor, raw materials, consumables, etc., which have to be processed to become finished product. These finished goods cannot be immediately sold for cash and hence the goods for credit shall collect after at a later date. Thus, the cash invested in business will pass through various stages. This passage process is called 'operating cycle' which shows various phases of inputs before they are converted into cash. Thus, the operating cycle involves 4 stages. They are: procurement of inputs, conversion of raw materials into finished goods, selling of goods and Collection of funds from the debtors.

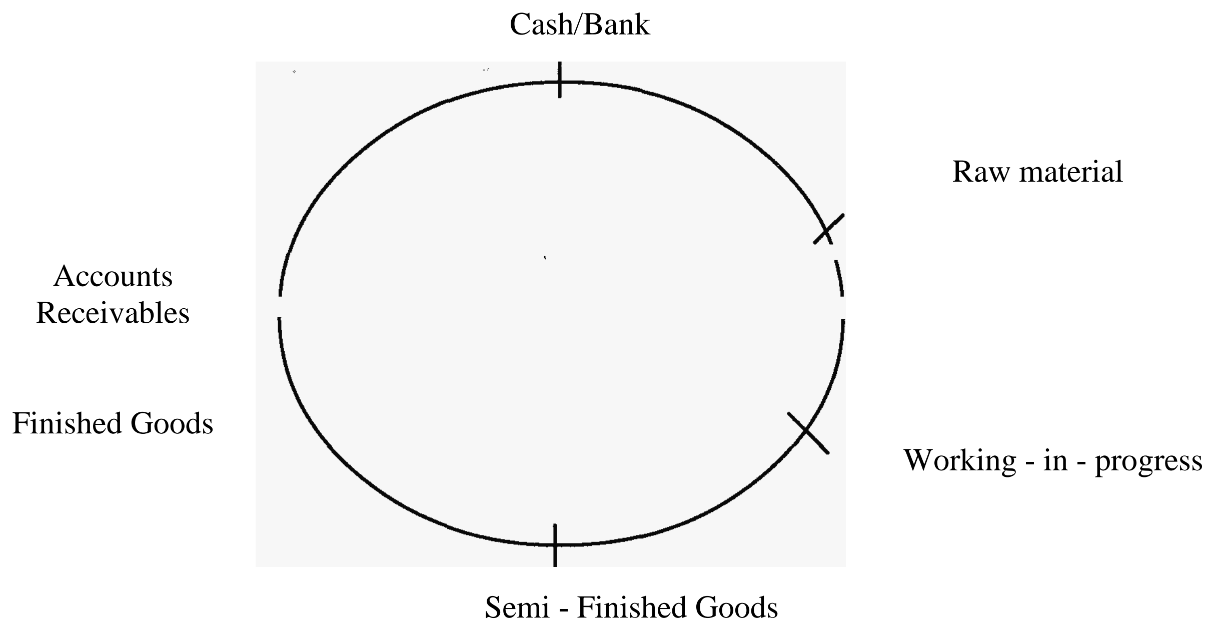

Diagram 10.1. Working capital cycle / operating cycle

Length of operating cycle period varies from industry to industry. Longer the period less the number of cycles in a year, the cash is more rotated. A firm, which takes more time to complete a cycle, implies that it will take more time to pay its bills and vice versa. Suppliers, financiers look into the operating cycle before lending cash or extend credit. In other words, firms taking less time will be quick in payments to its creditors. Thus, liquidity of a firm lies in the operating cycle and its length. If the length of the operating cycle increases, it means the firm requires t ge amount of working capital. So, adequate amount of working capital is to be invested in current assets for smooth and uninterrupted production and sales activity of the business.

10.4 Evils of Excess working capital:

Excess working capital means idle funds earning no profit. If the investment in working capital is more than the required amount, it is termed as excess working capital. The size of working capital should be always optimum and should be neither low nor excess. But arriving at optimum level of working capital depends upon experience and expert knowledge. The excess working capital refers to the idle funds in business, which causes losses to the firm.

The following are the consequences of the excess working capital:

i) Excess investment yields no returns and results in misuse of funds and the interest what the firm incurs on excess investment is a direct loss

ii) Excess inventories causes deterioration in quality, sometimes fall in prices followed by wastage and mishandling, and

iii) Higher incidence of bad debts affecting profits due to defective credit policy and slack collection period.

Thus, firms do experience risks without optimum working capital and therefore, every firm should have optimum level of working capital only.

10.5 Dangers of Inadequate working capital:

Investment in current assets may some times be inadequate i.e., less than what is required. The effects of inadequate working capital are:

i) Cash shortage causes cash - out and liquidity problems. Further firm's losses business opportunities and at times forego discounts on bulk purchases.

ii) Lack of maintenance of adequate levels of raw material inhibit the production activities and thereby firms forego sales.

iii) Inability to maintain sufficient levels of finished goods for want of working capital limits sales opportunities and thereby, firm's profits will be poor as such firms will not grow further.

iv) Firms may feel great inconvenience to implement projects due to lake of sufficient working capital.

v) Firms do not pay bills and other dues timely, thereby looses their reputation and goodwill.

Thus, firms do undergo dangers without sufficient working capital funds. Hence, it is neither desirable to imagine short of working capital nor excess working capital and therefore, every firm should have maintain optimum size of working capital funds, which minimizes the cost of production and maximizes the profits of the organization.

10.6 Determinants of Size of Working Capital:

It is understood that working capital is the vital component for future growth of the firm and therefore the financial manager has to maintain required level of working capital. There is no set of rules to determine the level of the working capital of a concern. A large number of factors influence the determinants of working capital, which are discussed as under.

i) Nature of business:

The size of working capital depends upon the nature of business such as trading or manufacturing. The manufacturing forms need relatively more working capital for maintaining current assets and firms do need more i.e., 60 to 70 per cent working capital than trading firms. Thus, working capital requirement depends upon the nature of the industry, en case of banking and financial institutions also need large amount of working capital to meet the needs of the customs where as public utilities such as railways, transportation, hotels, resorts need less working capital relatively

iii) Market coverage:

Working capital requirement largely depends upon the market size which names the extent of a market coverage decides the requirement of working capital. Wider the market coverage, more the requirement and vice - versa. Firms with state level market; national market and global market need working capital requirement

iv) Manufacturing cycle:

It covers the time span between the procurement of raw materials and the completion of the manufacturing process leading to the production of finished goods. Every product requires some technology to be used for converting the inputs into finished product. Length of the process

depends upon the type of technology used. Lengthy processes consume huge amount of working capital and vice - versa. For example, ship building industry requires more working capital as it takes more time to construct ships. Since, manufacturing process differs from product to product the size of the working capital also varies based on its manufacturing cycle.

v) Advances:

Infact some firms while booking order itself ask for advances from their customers by which they want to reduce the working capital pressures. Whereas, the firms without such policy do need more working capital funds to meet their production requirements.. Similarly, while making purchases also, the firms who have to give advances for supply of materials, consumables, services and laborers require more amount of working capital. In case of some business organizations, they may insist for deposits for their materials supply which reduces the dependence of working capital requirements.

vi) Technology:

Technology refers to how-to and why-to in making a product or service. This processing technology may be manual or mechanized or computerized. Higher the technology, less time taken to produce the goods or services. Hi – technology though required huge capital for its acquisition, but take less time to finish the processing, thus require less working capital funds. Whereas, the production processes with manual methods require huge funds as they use more number of workers and maintenance of work-in-process material. The extent of working requirement of a firm also depends upon its plant capacity. Larger the capacity, higher the scale of operations and huge amount of goods and services are sold, hence the working capital requirement is more.

vii) Growth Opportunities:

It is logical to expect a larger amount of working capital is required for growing firms, as their sales tend to increases. Such firms need to plan for more working capital and it in order to arrange more inputs to meet the increasing demands. The composition of working capital in a growing company also shifts with economic circumstances and corporate practices. Thus, the need for working capital is directly related to the firm's growth.

viii) Seasonal fluctuations:

Generally, the demand for goods is of two kinds. One is seasonal and the other is permanent. The seasonal industries usually produce goods only in the selected months, and in the off-season, they stop production. Industries such as sugar, tobacco, cotton, chilies etc., are such industries, which need working capital during season times only. These firms should arrange the working capital funds more in size during the seasons and produce the products even for meeting the customers' demand during the non -seasonal period.

ix) Production Policy:

The quantum of working capital is also determined by production policy. In certain lines of business, the demand for products is seasonal, that is they are purchased during certain months of the year. Some firms undertake production activity throughout the year, since they sell in several markets. Such firms require working capital all the twelve months in the year to supply their

products in different months. Thus, these companies with continuous production require working capital continuously in the year.

x) Credit Policy:

Firms sell goods always not for cash offer some sales on credit to their customers for maximizing sales. The firms have to be flexible in their credit terms to enable sales. Such firms do require more amount of working capital than the firms, which sell for cash always. Now a days credit has become common and necessary in the wake of competition. The firms selling on credit should review credit worthiness of their customers from time to time, so as to reduce the delay in collections. The collection department has to be alert and see that collections are made promptly. Therefore, the firms with efficient collection departments do require less working capital than the firms with liberal collection / credit policy.

xi) Availability of Credit:

Firms buy raw material and other consumables both for cash and credit. Normally, a firm is reluctant to commit cash and wish to get goods on credit. The availability of inputs for credit results less amount of working capital funds and hence, firms searching for supplies that can arrange goods on credit basis. In the absence of suppliers' credit the firm will have to borrow funds from bank. The availability of credit at reasonable cost from bank is crucial which influences the working capital policy of a firm.

xii) Operational Efficiency:

It means optimum utilization of resources at minimum costs. With operating efficiency, the use of working capital will be improved and pace of cash cycle is accelerated. The operating efficiency results the better utilization of resources that improves profitability and thus, helps in releasing the pressure on working capital. Thus, the operational efficiency firms will reduce their cost of production and earn more profits. Besides, such firms can generate financial resources from within and they require less amount of working capital requirement.

xiii) Managerial Experience:

The operational efficiency of the firm depends upon the experienced personnel who take decisions effectively and implement them very efficiently. This caliber among employees enable the firm to function with minimum inputs thereby, reduces the pressure for more working capital requirements. Besides, their effective decisions the knowledgeable personnel also make use of the various management techniques for in the day-to-day operations of the business firms.

xiv) Expansion Activities:

Firms having opportunities to expand or diversification will need more and more working capital. Whereas, the firms, which have reached saturation, will not warrant more amount of working capital as their opportunities of expansion are sealed. To support enlarged scale of operation, investment in current assets also increases. It is of course difficult to determine precisely the relationship between the growth in the volume of business of a company and the increase in its working capital

10.7 Types of Working capital:

The working capital can be divided into Fixed and variable working capital.

(i) **Fixed Working Capital**: There is always a minimum level of current assets continuously required by the firm to carry on the business operations, which is considered as permanent working capital. For all practical purposes this requirement has to be met permanently as with other assets in the business.

(ii) **Variable Working Capital**: Any amount over and above the permanent level of working capital is variable working capital. This portion of the required working capital is needed to meet fluctuations in demand consequent upon changes in production and sales a result of seasonal changes.

Both kinds of working capital are necessary to facilitate the sales process through the operating cycle. Temporary working capital is created to meet liquidity requirements that are of a purely transient nature.

The diagram 10.2 shows the graphical presentation of these two types of working capital.

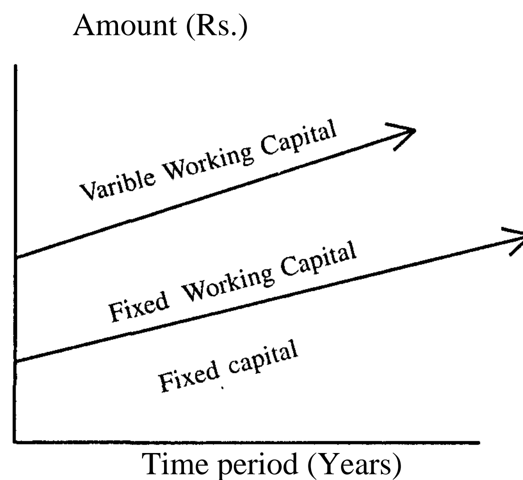

Diagram 10.2 Types of working capital

The size of fixed component in the total working capital rises from year to year in case of a growing enterprise. But it is not so in respect of variable portion of working capital. It rises and falls depending upon the season, demand, competition, etc. however, it increases over a period of time. Thus, the line moves upwards in fluctuating manner, whereas, the fixed component of working capital steadily rises as years pass.

10.8 Sources of Working capital:

After arriving the estimation of working capital for any firm, the next step is how to

finance the working capital requirement. There are two sources for financing working capital, i.e., short – term and long – term.

Short - term financing refers to borrowing funds or raising credit for a maximum of one year period i.e., the debt is payable within a year at the most. Whereas, the Long - term financing refers to the borrowing of funds or raising credit for one year or more. The finance manager has to mix funds from these two sources optimally to ensure profitability and liquidity. The mixing of finances from long - term and short term should be such that the firm not face either short of funds or idle funds. Thus, the financing of working capital should not result in either idle or shortage of cash funds.

10.9 Working Capital Financing Policies:

Policy is a guideline in taking decisions of business. The manager of the firm has to take a decision of' mixing the two components, i.e., long term and short term credit in financing its working capital. The policies for financing of working capital are divided into three categories, which are explained as under:

(i) Conservative Policy:

Under this policy all the assets, fixed as well as current are financed with long-term sources of finance. Using long-term capital also finances even some of the variable current assets. When the firm has excess liquidity, it invests in marketable securities, but relies less on short-term credit during seasonal fluctuations. Thus, the manager depends more on long-term funds with low returns and less amount of risk.

(ii) Aggressive Policy:

According to this financing policy, the manager depends more on short-term funds in financing its fixed working capital requirements. Some extremely aggressive firms may even finance a part of their fixed assets with short-term financing

(iii) Matching Approach:

Third one is a moderate policy, which suggests that the manager depends moderately on both long term and short-term funds while financing its working capital requirements. The question arising here is how to mix both short term and long-term funds, and the guiding approach is that if the need is for short-term purpose, raise short credit and if it is for a long term, one should arrange long term loan. Thus, maturity period of the loan is to be matched with the maturity of the assets of the firm. This approach states that a sufficient level of liquidity should be maintained to meet the firm's maturing debts on time. In other words, all long-term assets including the permanent current assets are financed with long-term sources of financing and temporary current assets are financed with short-term debt.

The working capital financing policies are shown diagrammatically as under.

Conservative Financing Policy

Short-term funds

Aggressive Financing Policy

Seasonal Current Assets

Permanent Current Assets

Fixed Assets

Short-term funds

}Long Term funds +Equity capital

Seasonal Current Assets

Permanent Current Assets

Fixed Assets

Moderate Financing Policy	Seasonal Current Assets	Short-term funds

Long Term funds +Equity capital

Fixed Assets

Diagram 10.3... Working capital policies.

The following diagram 10.4 shows the graphical presentation Matching approach.

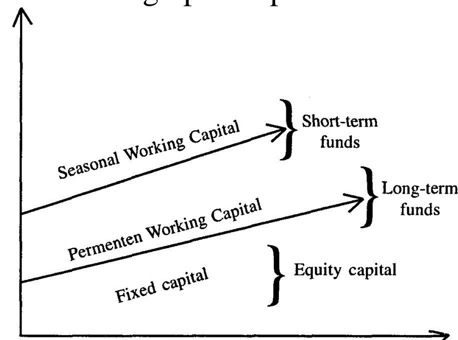

Diagram 10.3 Matching approach

Type of Funds	Working capital requirement
Short - term -	Seasonal working capital
Long - term -	Permanent working capital
Equity capital -	Fixed assets

10.9.1. Impact of Working Capital Policies:

A firm's sales are Rs. 25 lakhs, and having an EBIT - Rs. 3 lakhs. It has fixed assets of Rs. 8 lakhs. The firm is thinking to hold current assets of different size of Rs. 5 lakhs, Rs. 6 lakhs or Rs. 8 lakhs. Assuming profits and fixed assets do not vary, the impact of these working capital policies are in the following manner, which is explained in a hypothetical illustration:

Illustration 10.1 Impact of different working capital polices(Rs in lakhs)

	Type of	Working Capital	Policies
	Aggressive	Moderate	Conservatory
Sales	25	25	25
EBIT	3	3	3
Current Assets	5	6	8
Fixed Assets	8	8	8
Total Assets	13	14	16
Return on Assets%			
(EBIT / total assets)	23.07	21.42	18.75

Lower the level of current assets (aggressive) higher the returns (23.07 percent) higher the level of current assets (conservative) lower the returns (18.75 percent).

10.10 Optimum Working Capital:

As we have discussed in the earlier paragraphs, current assets and their size depends upon several factors. Arriving appropriate size of current assets such as cash, raw materials, finished goods and debtors is a challenge to the financial manager of a firm. It happens some times excess or shortage. We have also discussed in the fore - gone paragraphs about the evils of excess working capital and inadequate working capital. Actively very few firms arrive optimum level of working capital by their sheer experience and scientific approach. The ratio of current assets to fixed assets helps in measuring the performance of working capital management. The higher the ratio, conservative the firm is in maintaining its current assets and lower the ratio, conservative the firm is in maintaining its current assets. Lower the ratio aggressive the firm is in maintaining its current assets. So every firm should balance their level of current assets and make it optimum.

10.11 Liquidity Vs. Profitability

Any exercise in working capital management will influence either liquidity or profitability. The working capital management is a razor edge exercise for financial manager of an enterprise. In this context the financial manager has to take several decisions of routine and non - routine such as: sufficient cash balance to be maintained; to raise long-term or short-term loans decide the rate of interest and the time of repayment; decide the purchase policy to buy or not to buy materials; to determine the economic order quantity for inputs, to fix the price at which to buy the puts if any; to sell for credit or not and terms of credit to decide the terms of purchase; to decide the credit period and extent of credit. In all these aspects the financial manager has to take decisions carefully so that the firm's twin objectives such as profitability and solvency are not affected.

10.10.1. Trade off between Liquidity and Profitability:

There are two types of costs involved, i.e., cost of liquidity and cot of illiquidity in working capital risk-return trade off. It the firm’s level of current assets is very high, it has excessive liquidity. Its return on assets will be low, as funds tied-up in idle cash and stocks earn nothing and high levels of debtors reduce profitability. Thus, the cost of liquidity increases with the level of currents. If a firm maintains huge amount of current assets its profitability will be affected though it protects liquidity, thus, it has to sacrifice the profitability. On the other hand, if a firm maintains low current assets, its liquidity is of course weak but the firm's profitability will be high.

The trade - off between liquidity and illiquidity are shown in the following diagram 10.5

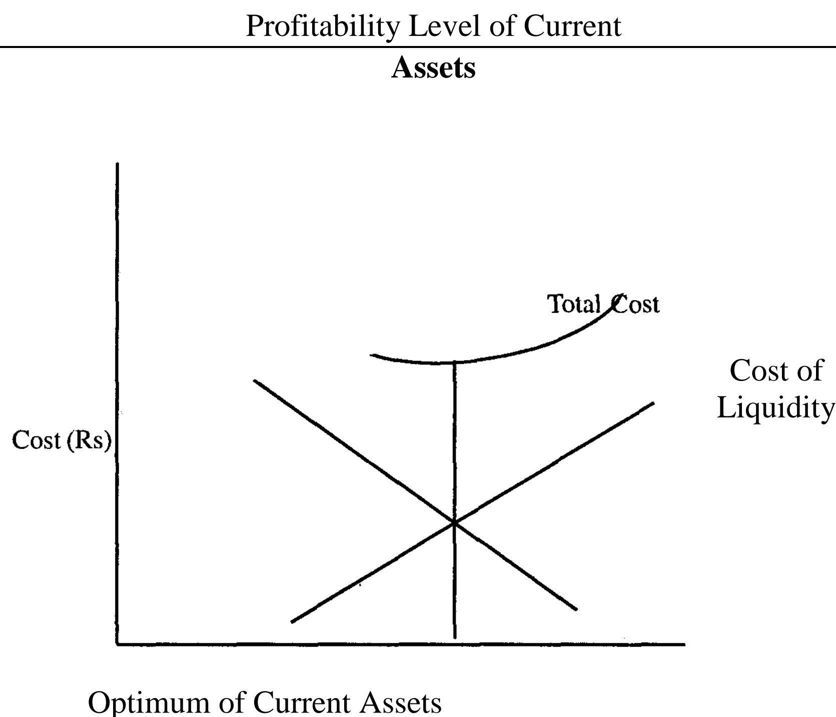

Diagram 10.5. A Trade off between profitability and liquidity

10.11 Estimating Working Capital Requirements:

The most appropriate method of estimating the working capital requirements of a business firm is the concept of operating cycle. However, there are other methods are also available for determining the working capital needs of the business firm. The following methods are successfully used in the estimation of the working capital requirements.

(i) Ratio of Sales:

The working capital requirement is also estimated based on the ratio of sales to currents assets of the firm. This method is much useful in planning short-term working capital requirements. However, the basic criticism of this method is that it assumes a linear relationship between sales and working capital. Therefore, this method is not universally accepted.

(ii) Ratio of fixed Assets:

The working capital requirement is also estimated as a percentage of fixed assets investment. Here, the ratio between fixed assets and working capital requirement is calculated instead of working capital as a percentage of sales. Here, the assumption is full utilization of installed capacity.

The above two discussed methods are based on certain assumptions which may not be true. As a result they work well when the firm is operating under conditions of total certainty.

(iii) Operating Cycle Method:

The most important commonly used approach is the operating cycle method for working capital requirements of a firm. The requirement of the working capital can be estimated based on the average holding period of currents assets and relating them to costs on the earlier year's experience. The duration of the operating cycle for the purpose of determining working capital requirement is equal to the number of days involved in the different stage of operation commencing from purchase of raw material and ending up with the collection of sale proceeds from debtors against which the number of days credit allowed by suppliers are to be adjusted.

10.12 Summary:

The need for working capital arises from the operating cycle of a firm. The working capital requirements are determined by a variety of factors. These factors, however, affect different enterprises differently. The firm's credit policy is another factor which influences the working capital requirement. The requirement for working capital finance will be reduced to the extent the firm is able to exploit the credit extended by suppliers. The firm's decision about the level of investment in current assets involves a trade-off between risk and return.

10.13 Key Words:

Aggressive Policy: Lower level of current assets to fixed assets, which indicates high risk and poor liquidity situation.

Conservative Policy: Assuming a constant level of fixed assets higher current assets to fixed assets ratio.

Operating Cycle: it is the length of time that the firm's cash is tied up in its operations.

10.14 Self- Assessment Questions

1. Explain the concept of working capitals?
2. Discuss the importance of working capital for a manufacturing firm?
3. Explain the dangers of excess and shortage of working capital?
5. Briefly outline the determinants of working capital of a firm?
6. Compare and contrast the twin objectives of profitability and liquidity?
7. How do you decide the optimum level of working capital? Explain the cost of liquidity.
8. Discuss the merits and limitations of matching approach of working capital financing.
9. What are the financing schemes available to working capital?
10. XYZ Company is about to commence new business and finance has been provided in respect of fixed assets. They have however asked you to advise the additional amount, which they should make available for working capital. They provide you with the following estimates for their first year and inform you that they have arranged an overdraft limit with their banker of Rs. 5,50,000.

Particulars	Average period of credit	Estimate for the first year (Rs.)
Purchase of materials	16 weeks	56,00,000
Wages	2.5 weeks	29,50,000
Overheads	3 months	2,00,000
Directors & Managers salaries	2 months	5,60,000
Travelers and office salaries	4 weeks	6,55,000
Travelers commission	2 months	3,00,000
Other overheads	1 month	8,00,000
Sales: Cash	__	2,40,000
Credit	17 weeks	185,00,000
Average amount of stock work - in - progress		13,00,000

Sales are made at an even rate for the year. You are required to prepare from the above figures an information table for submission to your clients giving an estimate of the average amount of working capital, which they should provide.

11. ABC Ltd. plans to sell 130,000 units next year. The expected cost of goods sold is as follows.

	Rs. (Per unit)
Raw materials	250
Manufacturing expenses	130
Selling, administration & finance expenses	50
Selling price	3000

The duration at various stages of the operating cycle is expected to be as follows:

Raw material stage	3 months
Work in process	2 months
Finished goods stage	1 month

Debtors stage 2 months
Assuming a monthly level of 12,500 units of production
Calculate the investment in various current assets

10.15 Further Readings

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