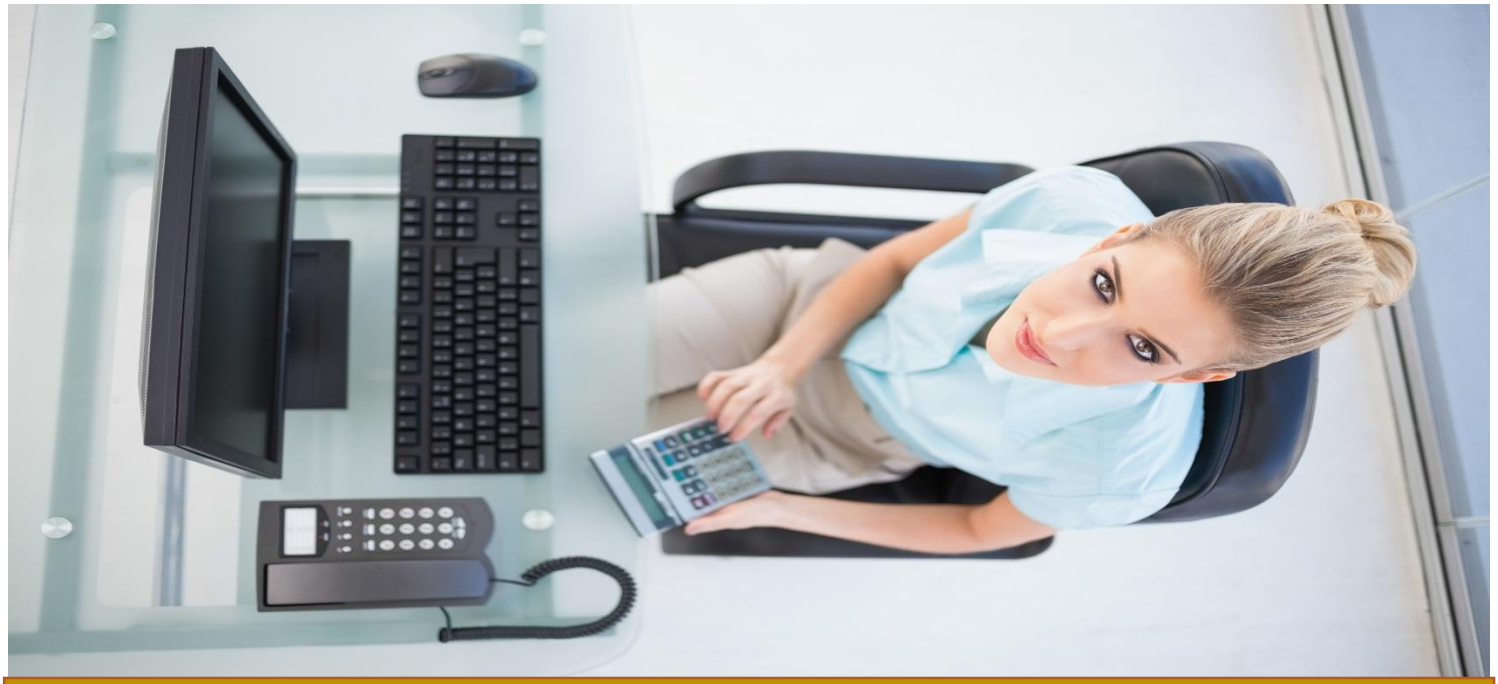

UNIT-12 Management of Working Capital

Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Explain concepts and components of working capital
- ✓ Describe the significance of and need for working capital
- ✓ Explain the criteria for efficiency in managing working capital.

Unit 12

Management of Working Capital

A firm can invest its funds in permanent or long- term projects, such as, purchasing fixed assets, diversifying, expanding business operations, modernising or renovating equipment or machinery, spending on research and development, etc., investment of funds in business is one of the important aspects of effective management.

There are several short-term uses for funds, as well, which include spending on the business' current operations. The manager of a manufacturing department, for example, would need to purchase raw materials, pay wages to labor, and meet day-to-day expenses. The manufactured goods that remain unsold at the end of an accounting period are added to stock. Examples of these goods include semi-finished products, unused raw material and finished goods that are unsold. Similarly, not all manufactured goods are sold for cash as some of them are sold to customers on credit. Therefore, funds remain blocked in stock and in goods sold on credit until the firm receives cash.

Working Capital is the firm's capital that is being used in its short-term business operations. In other words, it refers to the firm's investment in cash, accounts receivable, inventories (which includes raw materials, semi-finished products, and manufactured goods), and short-term securities. It basically relates to everything included in the firm's current assets and current liabilities. It is an important managerial function to manage working capital because it ensures the smooth running of day-to-day business operations.

Significance of Working Capital

No business firm can function without a certain amount of working capital. Regardless of its size and type, a firm needs the following:

(a) a sufficient supply of raw materials;
(b) enough capacity to stock its goods;
(c) cash, to meet the wage bill; and
(d) the capacity to extend credit to customers.

Therefore, it is safe to say that without working capital, a business (either profit-driven or otherwise) cannot conduct its daily business operations.

Operating Cycle

The Operating Cycle, which is also known as the Working Capital Cycle, is the time that elapses between the purchase of raw material or merchandise and their conversion into cash. The figure below illustrates the activities involves in this cycle.

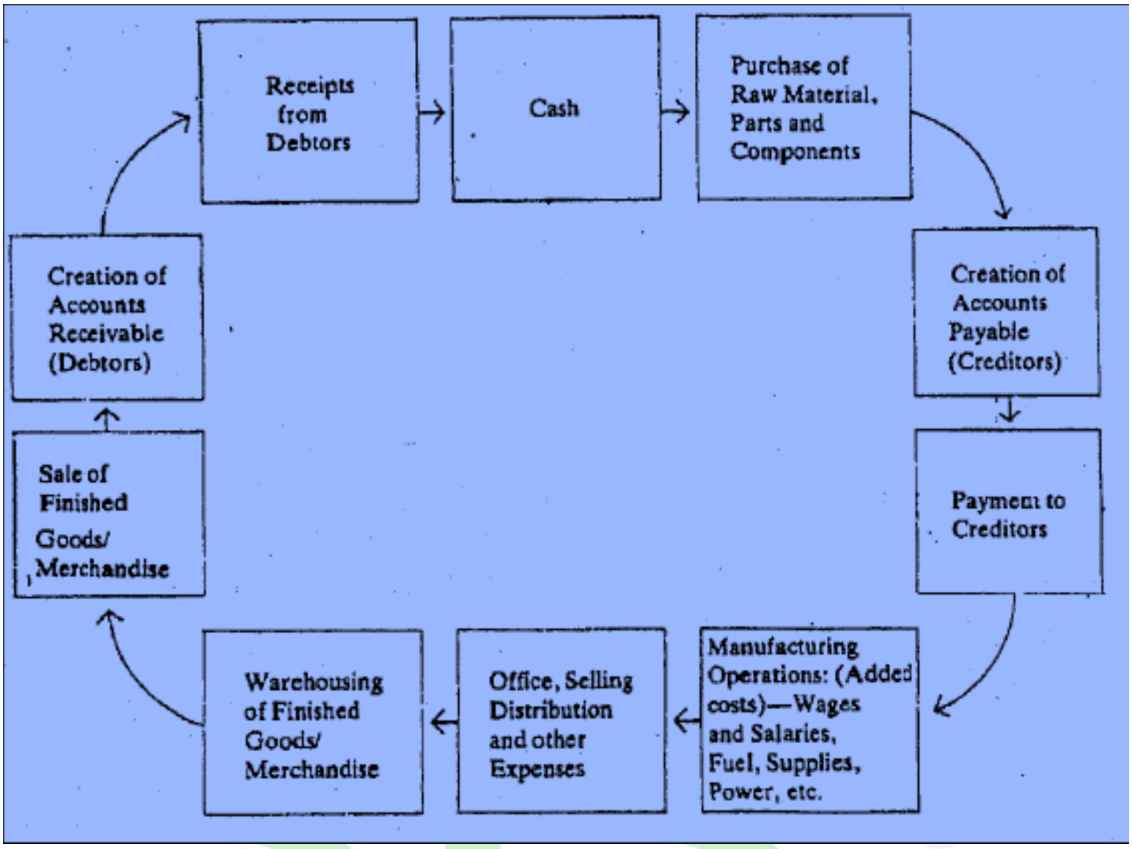

Figure 12.1: the Operating Cycle

This cycle can be summarized as the recycling of funds invested in business operations into cash. The cycle becomes longer as it takes more time for the conversion of invested funds to become cash. A standard Operating Cycle usually lasts for a financial year. On the other hand, if the cycle is short then that indicates that there is a larger turnover of funds. These funds are invested in current assets like cash, receivables, and inventory, etc. and sometimes, there is a surplus of funds over their requirement. In case of surplus funds, the business would be better off investing in short-term government securities, rather than keeping idle cash.

Concepts of Working Capital

We will discuss two concepts of working capital: the Gross Concept and Net Concept.

Gross Working Capital

This concept is also known as the 'current capital' or 'circulating capital' concept, and it relates to the firm's investment in current assets only. This means that when calculating working capital, current liabilities are not deducted from current assets. Therefore, according to the Gross Working Capital Concept, 'total current assets' and 'working capital' can be used interchangeably.

Arguments in support of this concept are as follows:

i. A firm earns profits through its assets, which constitute both fixed and current assets. Both are similar to each other in that both are financed to a certain degree by borrowed funds and both are expected to generate returns that are more than the interest, which the firm has to pay. Therefore, total current assets can also be called Working Capital;

ii. The firm's management gives more importance to current assets, as they are the funds, which are required for conducting business operations, than to the sources of these funds; and

iii. Increased investment in the firm leads to an increase in Working Capital.

Net Working Capital

Net Working Capital represents the difference between current assets and current liabilities. All outstanding expenses, bills payable, overdraft, and creditors' dues, etc. that are maturing in the ongoing accounting period are current liabilities. When current assets are more than current liabilities, then, we have a positive Net Working Capital and vice versa.

It is a qualitative concept, which refers to the liquidity position of the firm and indicates how much financing from permanent sources of funds is needed for working capital. When current assets are well in surplus over our current liabilities, it provides a safety margin to the firm in during the operating cycle.

This means the firm can be confident of fulfilling its shirt-term financial obligations. However, too much liquidity (if the firm has too many current assets lying idle), is not necessarily healthy. It means that the management is not handling current assets too efficiently. Weak liquidity (when current liabilities exceed current assets or when current assets do not provide a margin to the firm), on the other hand, is a threat for a firm and may be lead to insolvency. Therefore, the management is responsible for the task to strike the appropriate balance between current assets and current liabilities.

This concept raises the question of what proportion of funds should be maintained as short-term and long-term funds in order to finance a minimum level of net working capital. The minimum level of net working capital should be maintained through permanent sources of funding such as owner's capital, long-term debt, debentures, retained earnings, and preference capital. The management has to take the decision of whether current assets should be financed by equity or by borrowed capital and to what extent.

The arguments supporting the net working capital concept are as follows:

- The excess of current assets over current liabilities has an influence in the long run;
- It reflects the financial health of a firm to investors and other stakeholders;
- Net Working Capital provides a safety net that the firm can rely on in time of need.; and
- It provides an appropriate basis of comparison between the financial health of the firm and its competitors.

Net Working Capital emphasises on the qualitative aspect while the Gross Working Capital focuses on the quantitative element. Both are very important for the management of working capital and cannot be ignored by managers.

Kinds of Working Capital

There are two main categories of working capital:

- Fixed, Regular, or Permanent Working Capital and
- Variable, Fluctuating, Seasonal, Temporary, or Special Working Capital

Fixed Working Capital

The operating cycle is a continuous process, therefore, there is a continuous need for current assets. However, the amount that the firm needs to invest in order to finance these assets may differ from time to time and depending on the level of production. Every firm has a specific minimum level of current assets that it needs to maintain in order to remain solvent. This irreducible level of current assets is known as fixed, regular, or permanent working capital. It is as 'permanent' as a firm's fixed assets.

Fluctuating Working Capital

The need for working capital, over and above permanent working capital, fluctuates depending on the volume of sales and production. It may also increase or decrease depending on seasonal requirements and unexpected events. A firm may be required to invest additional funds in working capital for raw materials and finished products as prices go up. Similarly, it may need more working capital to face the market competition or to cater for labor contingencies such as strikes. Moreover, advertising and promotional campaigns launched to boost sales are often financed by additional working capital. Therefore, this kind of working capital is called fluctuating, seasonal, variable, temporary, or special working capital.

The figures below illustrate both categories of working capital.

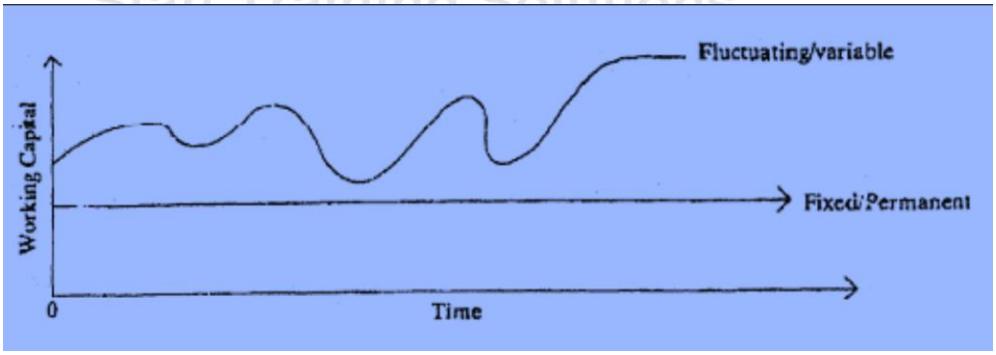

Figure 12.2: Fixed Working Capital remains constant over time

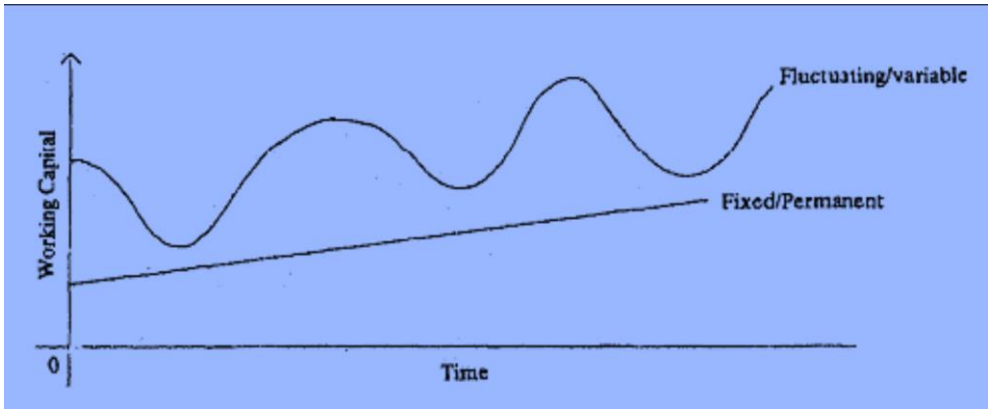

Figure 12.3 Fixed Working Capital increases over time

Figure 12.2 shows that fixed working capital remains stable with time while variable working capital, as the name suggests, keeps changing and fluctuating over time. However, it may be noted that the fixed working capital may not always remain unchanged. It can consistently increase over time for a growing firm as shown in figure 12.3.

These permanent and temporary working capitals are used in facilitation of operating cycles to boost production and sales. Firms arrange temporary working capital in order to address liquidity requirements, because they are only temporary.

Components of Working Capital

There are two components of working capital:

- Current assets
- Current liabilities

Several items are included in Current assets. These include:

1. Some cash on hand to meet contingencies;
2. Debtors, or accounts receivable;
3. Inventory consisting of raw materials and supplies, semi-finished products (work-in-progress), and finished goods;
4. Expenses and Purchases that are paid for in advance and are recoverable; and
5. Short-term investments that can be converted into cash readily.

A firm's short-term or current liabilities consist of credit supplies, deferred short-term payments, and borrowing from banks. The following is a list of items that are typically included in current liabilities.

i. Purchase of goods that will be paid for in the near future (credit purchases);
ii. Expenses, such as wages, rent, and bills, etc., which the firm will pay for in the near future;
iii. Short-term loans from banks, financial institutions, and other parties;
iv. Short-term deposits or advances received from buyers of the firm's goods and services; and
v. Tax and dividends that are payable by the firm.

Some of the major elements constituting current assets are discussed below:

Cash: one of the very basic uses of cash is the purchase of plant, machinery, and equipment needed for production and the generation of funds when these assets are sold off. It is very necessary for any business that is starting up.

Cash is also a requirement for investing in working capital, as the firm has to maintain inventories of raw materials and finished goods in addition to providing credit to customers.

The firm needs to maintain a minimum level of cash to make purchases, credit sales and meet with unexpected expenses. A typical operating cycle starts with the investment of cash, and ends with the release of cash in the form of funds to be invested in new projects at the beginning of another cycle.

A firm's demand for cash may increase depending on investment in additional fixed assets, increasing the level of production or extending the credit period to customers. Therefore, a firm's demand for cash is affected by factors, some which are not in control of managers.

While a business cannot run without cash, holding a large amount of idle cash is also not in the best interest of a business. It indicates that the business is forgoing interest and returns that it could have earned by lending that cash or by investing it. Cash management entails weighing the costs and benefits associated with holding cash. Cash is most efficiently managed by speeding up the working capital cycle, especially by investing surplus cash in short-term assets that yield returns for the firm.

Accounts Receivable: Selling goods and services to customers on credit is a very common aspect of business these days, although most firms would prefer to make sales on cash. However, they must make a certain proportion (according to their own business policy) of sales on credit in order to stay in competition with other firms in the market. Accounts receivable are the debtors of the firm, or all those parties that owe money to the firm in exchange of goods and services. In order to make credit sales possible, the firm has to purchase goods from its suppliers on credit as well. This granting of credit from one business to another is termed as trade credit. Banks are a common source of funds for business, but trade credit is also a major source of funds that makes investment in working capital, such as accounts receivable, possible.

While the existence of accounts receivable is crucial for increasing sales, an excess of debtors may lead to an increased possibility of bad debts (debtors failing to pay the firm back for the goods and services that they have received) and a decreased circulation of cash. Accounts receivable must be managed closely in order to avoid losses.

Inventory: Machines, men, and materials are three basic elements for a manufacturing firm. Labour is required in order to use machines that convert raw material into finished products. The success of a

manufacturing business depends on the employment of the right mix of these three elements. Inventory is a current asset for a business.

For any manufacturing organization, inventory is a very important part of working capital or current assets.Control on inventories is established either through a physical/quantity control or a value control and is very significant for costing process. Usually, it makes up more than 60% of the current assets. Firms tend to maintain inventories in order to meet several of their objectives but it is important to note that an excessive inventory can also cost a lot to firms.

Inventories can be composed of raw materials or other consumables and finished goods. Inventory holdings and its amount is directly influenced by factors like technology, the availability of material, the nature of industry, and price fluctuation.

Inventory holdings can result in many benefits for firms. It can lead to smoothening of production and price stability. It also ensures timely delivery to customers. As discussed before, holding inventory also involves cost as maybe the case with any other form of assets. It may include storage cost, stock out cost etc. While deciding on inventory holding, firms compare the costs with the benefits accruing from that.

Marketable Securities: these can be converted into cash at very short notice, therefore, cash and marketable securities are often treated as one item in current assets. Since holding excess cash means that the firm is missing out on the revenue it could have earned by investing cash or lending it, therefore, investing in marketable securities is an easy way of maintaining liquidity and earning returns at the same time.

Importance of Working Capital Management

Working capital is an integral part of financial management and its management is one of the leading reasons behind a business's failure. It is that aspect of financial management, which is most closely related to the day-t-day business operations, therefore its management should be given a high priority.

Large and expanding companies entail increasing inventories, receivable and a demand for large bank loans and it is ever more important to manage working capital appropriately in order to avoid the threat of insolvency and liquidation.

Neglecting the management of working capital may lead to the following consequences:

1. Unavailability of funds may lead to the firm having to forgo lucrative investment opportunities, which may limit growth;
2. Operating plans become difficult to implement in the face of inadequate working capital;
3. Non-utilization of the firm's fixed assets leading to lower returns on investment;
4. Inability to meet the firm's day-to-day financial obligations;
5. Lack of working capital may lead to the firm not taking advantage of lucrative credit opportunities; and
6. The firm's inability to meet its financial requirements, due to the lack of working capital, ultimately leads to reluctance from banks and other lenders to grant loans.

Having a large surplus of working capital, on the other hand, leads to the following:

1. Huge and unnecessary inventory, which is wasteful and may lead to mismanagement;
2. The firm may end of lending a lot of money and not being strict enough to collect it all back leading to bad debts and losses;
3. Managerial inefficiency, since managers do not have to perform with limited funds; and
4. It may lead to the practice of having a large inventory for speculative profits and having a liberal dividend policy that cannot be maintained in the long run.

In view of the discussion above, managers must employ financial and statistical techniques in order to strike the right balance of working capital.

Determinants of Working Capital Needs

There are a number of internal and external factors that influence the firm's working capital needs and there is no set formula for computing it. Some of these factors are explained below.

The Nature and Size of the Business

Firms decide about how much working capital they need keeping in mind nature of their businesses. For instance, financial and trading companies invest more in working capital than in fixed assets.Similarly manufacturing and construction firms also invest a lot more in working capital than in fixed assets. On the other hand, retail stores maintain a large stock of merchandise to meet customers' demands. Also companies dealing with public utilities have fewer requirements for working capital and require substantial investments in fixed assets as they deal in cash sales while supplying services. In a nutshell, the needs of most firms when it comes to working capital oscillate somewhere between the extreme cases of trading companies and firms dealing with public utilities.

The second factor which influences the working capital needs is size of businesses. Size of a business can be measured in various ways, most popular being scale of operations. Companies with large scale of operations will need greater amount of working capital.

In addition, the risks or contingencies involved in businesses also influence the decisions on working capital requirements.

Manufacturing Cycle

It starts when the firm purchases raw materials and ends when the goods are fully manufactured. A longer manufacturing cycle means that more time will be needed to process raw materials and semi-finished goods; therefore, the working capital will be tied up in the manufacturing process for a longer period of time than usual. Usually, firms, that manufacture heavy machinery and other products, requires longer production cycles try to avoid investing in inventories by seeking advance payments from customers.

Business Fluctuations

Cyclical fluctuations in the demand for the firm's product due to seasonal factors play an important role in determining the working capital requirement. For example, if the economy is experiencing an upward swing, that would lead to more sales and hence an increase in the firm's investment in inventory and receivables. On the other hand, if the economy has taken a downward turn, then the firm's sales will take a hit for the worse leading to lower inventory and receivables.

Production is also affected by these seasonal factors. Increasing the level of production may be expensive for the firm; therefore, it makes sense to maintain a steady level of production for the most efficient utilization of resources. This entails that the firm needs to have a financial plan in order to have an inventory for the off-season and avoid fluctuations in production level.

Production Policy

Although it is advisable for a firm to keep a steady production level, when inventory builds up, especially, during the off-season when the demand is low, the firm will have to face high inventory related costs and risks. To avoid these costs, the firm may decide to vary its production levels according to the demand.

It might want to invest in equipment that is able to diversify production, for example, producing the main product when demand is high and then, shifting to the production of another product during the off-season. Therefore, working capital requirement will vary from one firm to another, depending on their production policy.

Turnover of Circulating Capital

The need for Working Capital is also influenced greatly by the speed with which one operating cycle completes a round. It is also referred to as Circulating Capital Turnover.

Credit Terms

Although the credit policy of a firm is limited by the industry's norms and practices and the policies of its competitors, it can still have its own credit terms. These credit terms affect the Working Capital requirement of the firm as it determines the number of receivables that the firm will have at a given time. A long collection period indicates that the firm will have its funds tied up in debtors for a longer period of time, and the inability to collect these debts may result in losses.

Similarly, the credit terms offered to the firm by its creditors also affect the working capital. If credit terms are liberal, then, the firm will not need a large amount of working capital.

Growth and Expansion Activities

There is no defined relationship between working capital and the growth of a firm but it is assumed that a growing industry will require more working capital. An increased need for working capital may not be an outcome of growth as much as it is a requirement for a firm that is in process of expanding.

A change in working capital requirements can be observed as economic circumstances change and as corporate practices shift.

Operating Efficiency

The Operating Efficiency is defined as optimum utilisation of resources by a firm through efficiently controlling the operating costs and minimising the need for Working Capital. A more efficient utilization of resources entails lesser pressure on Working Capital and a faster cash cycle.

Price Level Changes

The Price Level Changes affect different firms differently depending on their ability to absorb price shocks. In other words, some firms may feel the effect of changes more than the others. As a general rule, rising prices need more investment in working capital. Some firms are able to increase the prices of their products instantly so higher price levels do not really affect them.

Other Factors

Other factors that influence working capital include:

Net Profit: When it is earned in cash, it becomes a source of working capital. The cash inflow from earning net profit is adjusted against non-cash items such as depreciation, written-off losses and outstanding expenses.

Appropriation policy: This determines how much profit will be retained by the firm and how much of it will be distributed. Cash dividends reduce working capital whereas cash profits that are retained by the firm strengthen it.

Transportation: If the firm does not have a well developed means of transport and communication then it would have to keep large stock piles of raw materials, finished goods etc. at the distribution outlets and at places of production. Therefore this is another factor that influences working capital.

Approaches to Managing Working Capital

The Working Capital is managed by two main approaches: (i) the conventional approach and (ii) the operating cycle approach.

The Conventional Approach

In the Conventional Approach, individual components of Working Capital are managed in an economical and efficient manner. It ensures that neither there is any scarcity of funds nor there are any idle funds.There are different methods for managing individual components. For instance, management of debtors is given more attention where it forms the largest investment share in working capital. Still, inventory control has not yet been adopted on a large scale due to various reasons that include high prices and paucity of goods.

The Operating Cycle Approach

In the Operating Cycle Approach, Working Capital is treated as a function of the volume of operating expenses and the overall operation cycle. Working Capital is calculated from the operating expenses, which are required for a complete cycle and from duration of the operating cycle. One complete operating cycle starts from procurement of raw materials and ends with proceeds from debtors and the duration is worked out accordingly. Also, the credit period is taken into account that is allowed by the creditors.

So, by the using Operating Cycle Approach, the optimum level of Working Capital is managed based on the requirements of operational expenses and duration of operating cycle.

Traditionally, the Conventional Approach has been more popular than the Operating Cycle Approach. However, nowadays, the Operating Cycle Approach has been gaining more favour of many firms. Banks, especially, are more inclined towards the Operating Cycle Approach when managing their credit facilities for their clients.

Measuring Working Capital

The illustration below demonstrates how the exact need for working capital can be determined.

Illustration 1

Calculate the Working Capital based on the data given below of newly established firm manufacturing tricycles:

a) The following cost sheet shows the contribution of various production elements in the selling price.
   - Materials, parts, and components 40%
   - Labour 30%
   - Overhead 10%

b) Production in 2012 is estimated to be 60,000 tricycles.

c) Raw material, parts and components are expected to remain in the stores for anaverage period of one month before being issued to production.

d) Finished goods are likely to stay in the warehouse for two months on an average before being sold and delivered to customers.

e) Each unit of production will be in process for half a month on an average.

f) Half of the sales are likely to be on credit. The debtors will be allowed two months credit from the date of sale.

g) Credit period allowed by suppliers of raw material, parts and components is one month.

h) The lag of payment to labor is one month. 50% of the overhead consists of salaries of non-production staff.

i) Selling price will be £2000 per tricycle.

j) Assume that sales and production follow a consistent pattern.

k) Allow 20% to your computed figure for buffer cash and contingencies.

Before we attempt to calculate the working capital, it will be helpful to work out the following basic data:

a) The yearly production is 60,000 tricycles. Hence, monthly production will be 5000 tricycles.

b) The selling price per tricycle is £2000. The various elements of cost (i.e. raw material, parts and components, labor and overheads) comprise 80% (40%+30%+10%) of the selling price. Hence cost of production is £1600

i.e. (2000 x 80/100)

XYZ Tricycles Limited Statement of working capital requirements

	£ (00,000)	
Current Assets:		
Stock of raw material, parts and components		
(1 Month)	40	
Stock of finished goods		
(2 Months)	1,60	
5,000 x 1600 u 2		
Work in Process (1/2 Month)		
5,0110 1,600 x %	40	
Debtors (50% of sales) (2 months credit)		
5,000 x ½ x 1,600 x 2	80	3,20
Less current liabilities		
Creditors (one month)	40	
Wages and Salaries:		
Wages	30	
Salaries (Overheads)	5	75
		2,45
Add 20% for buffer cash and contingencies	49	49
Average working capital required		2,94

The various figures have been worked out as follows:

Cost of raw material etc.	
Monthly production	5000 Units
Cost of material per unit	£ 800
Period for which stock Required	1 month
Hence amount locked up	
5,000 X 800 X 1	£ 40,00,000

Cost of finished goods

Monthly Production	5000 units
Cost of production per unit	£1,600 (800 + 600 + 200)
Period for which stock Required	2 months
Hence amount locked up 5,000 X 1,600 X 2	£160,00,000

The Work-in-Process Stock

Monthly Production	5,000 units
Cost of production per unit	£1,600
Period for which stock is required.	1/2 Month
Hence amount locked up 5,000 X 1,600 X 1/2	£40,00,000

Debtors

Sales per month	5000 Units
Proportion of credit sales	50 per cent
Cost of Production per unit	£3,600
Period of credit	2 months
Hence amount locked up 5,000 X ½ X 1,600 X 2	£80,00,000

Creditors

Monthly production	5000 Units
Cost of production per unit	£1,600
Cost of raw material etc. being one half	£800
Period of which credit available	1 month
Hence, Working Capital unlocked 5,000 X 800 X 1	£40,00,000

Wages and Salaries

i) Wages	5,000 Units
Monthly production	£600
Labor cost per unit	1 Month
Lag period for payment	
Hence, Working Capital unlocked	£30,00,000
5,000 X 600 X 1	

ii) Salaries

Monthly production	5,000 units
Portion of Salaries in overheads	½
Overhead cost per unit	£200
Lag period for payment	1 Month
Hence, working capital unlocked	£5,00,000
5,000 X 200 X ½ X 1	

Working Capital Management Under Inflation

Managers have to ensure that the firm's Working Capital needs are kept stable, especially, in times of inflation. The following are a few ways that managers can adopt, in order to control Working Capital.

a) The firm should look into the possibility of using substitutes for the raw materials they were using before without compromising on the product's quality. This can be done wit assistance from the government or corporate sector.

b) Increasing the productivity of the work force can reduce labor costs per unit. The management can offer incentives to the work force after assessing the costs and benefits of the incentive scheme, which will increase the value added. Although wages a considered a variable cost in accounting, several government legislations have made them a partially fixed cost.

Managed costs, such as, office expenses, advertising, and managerial salaries, etc. are considered to be fixed costs, which are difficult to take back after they have been committed. The managers should carefully assess the costs ad benefits of these costs and the only way their costs can be minimized is if the firm derives maximum benefit from them.

Decreasing the span of the Operating Cycle, through the greater turnover and quicker collection from debtors, helps in releasing the pressure from working capital. The management realizes the slow movement and piling up of obsolete stock only when there is pressure on Working Capital (i.e., a greater need). In this case, temporary measures do not go a long way and the firm requires a clear policy regarding the management of stock. It also helps if the managers are well informed about the position of the stock from time to time.

Having a good reputation with the creditors is important as it can pay off when the firm needs liberal credit terms. In addition to this, managers should be able to make reasonably accurate projections of cash inflows and outflows so that required steps (postponing an unimportant payment) can be taken if the inflows and outflows do not match.

Efficiency Criteria

It is difficult to judge a firm's efficiency in an area, such as, Working Capital, however, there can be some criteria to assess it. The list below gives some parameters for judging the management of Working Capital.

a) The ability of a company to settle its bills with the creditors by due date. The financial managers must make sure that they have enough liquidity to meet their credit obligations;

b) Management of inventory to ensure that the maximum inventory turnover is achieved. Mismanagement of inventory cannot be undone even if all other components of working capital are managed efficiently;

c) The ability of the company to extend reasonable credit to its customers and manage its debtors efficiently. It is an important tool to promote and increase sales;

d) The power of the company to obtain reasonable credit from its suppliers. Sometimes there is one large supplier that supplies to the whole market and at times there is an oligarchy of a few big suppliers. The company can collaborate with other companies to obtain favorable credit terms. However, sometimes, the suppliers impose negative trade credit i.e. full advance; and

e) The existence of adequate safeguards ensuring that there is no over trading or under trading.

In addition to the criteria listed above, the following indices also reflect the efficiency of the management of Working Capital :

Current Ratio (CR)

CR = Current Assets/Current Liabilities

This ratio is an indicator of how the business manages its current assets and liabilities. It is useful in tracking working capital trends within the company. The ideal current ratio may differ depending on conditions in the industry, but usually 2:1 is used as a benchmark for a healthy current ratio. The quality of current assets and liabilities (do they really qualify as current?) matters, as well.

Quick Ratio (QR)

QR = Liquid Assets/Current Liabilities

This is also known as the acid test ratio. Liquid assets are current assets minus non-current assets, which cannot be converted into cash easily e.g. inventory and sticky debts.

1:1 is usually considered as an ideal quick ratio. However, it can be different for different companies.

Cash to Current Assets

Cash is one of the major components of current assets and it is an important indicator of a business' profitability. However, companies should avoid holding too much cash as that means it is not being managed properly.

Sales to Cash Ratio

Sales to Cash Ratio = Sales/Average cash balance during the period.

In order for a firm to achieve maximum sales with the minimum amount of cash on hand, the cash turnover must be significant.

Average Collection Period

(Debtors/Credit Sales) x 365

It indicates the number of days that the company allows its customers to settle their outstanding bills.

Average Payment Period

Average payment period = (Creditors/Credit purchases) x 365

It indicates the number of days that he company receives from its suppliers to settle its bills with them.

Inventory Turnover Ratio (ITR)

ITR = Sales/Average Inventory

This ratio reflects the number of times that the company's stock has turned over to achieve sales. Inventory should be kept at a level that matches with the company's sales needs and production capacity.

Working Capital to Sales

It indicates the amount of working capital needed for an increase in sales. It is usually expressed in percentage terms and helps management in assessing the amount of working capital they should maintain if there is going to be a growth in sales.

Working Capital to Net Worth

Working Capital to Net Worth = Working Capital/Net Worth

It indicates the relationship between working capital and the owners' funds. Mismanagement of this ratio leads to the following:

a) Overtrading in times when the market is in upswing. This is signified by:
   (i) High Inventory Turnover Ratio
   (ii) Low Current Ratio; or

b) Under trading during a market downturn. Indications of this are:

1. Low Inventory Turnover Ratio
2. High Current Ratio

Both the conditions mentioned above should be avoided by managing working capital efficiently.

Cash is a very important asset for a business as it indicates profitability and liquidity. It needs to be managed and its application should be planned efficiently.

Determining Optimal Cash Balance

As discussed earlier, cash management is of the highest importance to any business, regardless of its size and nature. If a company is holding an excess amount of cash, it means its forgoing any return that could have been earned by investing that cash. On the contrary, a shortage of cash can lead a business into all sorts of problems involving the inability to fulfill credit requirements at short notice.

Although, a company's cash balance does not always need stay uniform, managers should be able to assess a maximum and minimum average cash balance requirement for a specific period of time.

The opportunity cost related to maintaining a cash balance is as follows:

A. The company has to miss out on investment opportunities in order to maintain a minimum cash balance. These investments include inventory and securities, etc.;
B. The minimum cash requirement cannot be used to avoid financial risks related to short-term debts; and
C. If the company relies on internally generated cash too much, it can get isolated from the financial market.

It is the financial manager's responsibility to assess the costs and benefits of holding cash and then work out the optimum amount of cash that the company must possess.

A minimum cash balance should be determined below which a firm would suffer measurable costs. This minimum balance is not only a security against financial risk; it is also a requirement of financial institutions that lend credit.

If the business does not possess a minimum cash balance, it will have to bear costs associated with late credit payments and inability to offer cash discounts.

A firm's ending cash balance can be calculated as follows:

Ending balance = Beginning Balance + Receipts –Payments

Receipts and payments keep fluctuating depending on seasonal factors, market conditions etc. therefore, there will times when receipts will be more than payments, or payments will exceed receipts and times when payments will be equal to the receipts.

Let's assume that receipts are not equal to payments but the changes are predictable. The main issue in such a situation would be to minimize costs. If the minimum cash balance is set too low, then the business will suffer transaction costs and if the balance is set too high then the business will lose out on interest that could have been earned by investing cash. Deciding the optimal cash balance when managers know the costs and benefits depends on striking a balance between transaction costs and opportunity costs. This is shown in the figure below:

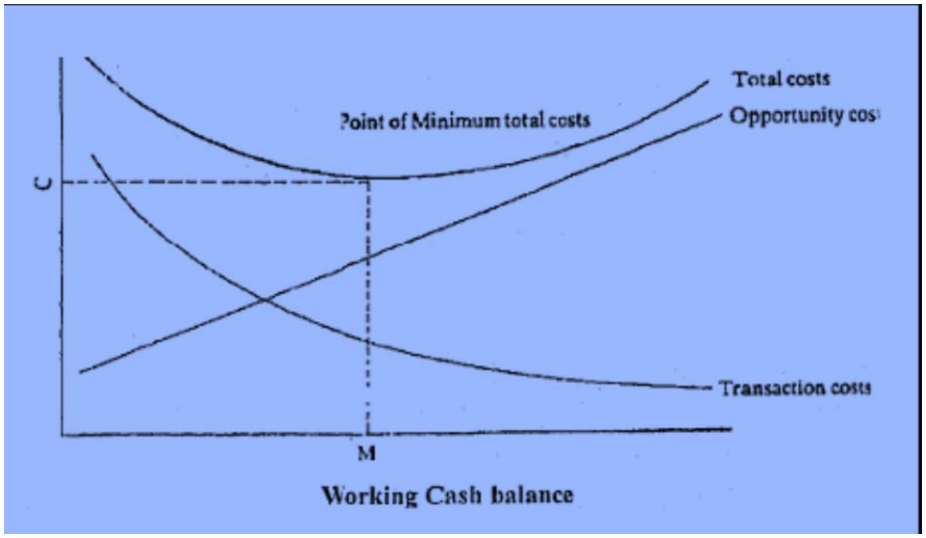

Figure 12.4: The Optimal Working Cash Balance

Point C in the figure above indicates the point at which the sum of both the transactions and opportunity costs is minimum. This is the optimum cash balance that managers should be able to identify. Point M is called the Optimum Working Cash Balance.

The problem with this model is that receipts and payments can hardly ever be this predictable. In an extreme case, where both these factors are totally random and unpredictable, the Control Theory can fix maximum and minimum optimum balances. This is explained in the figure below:

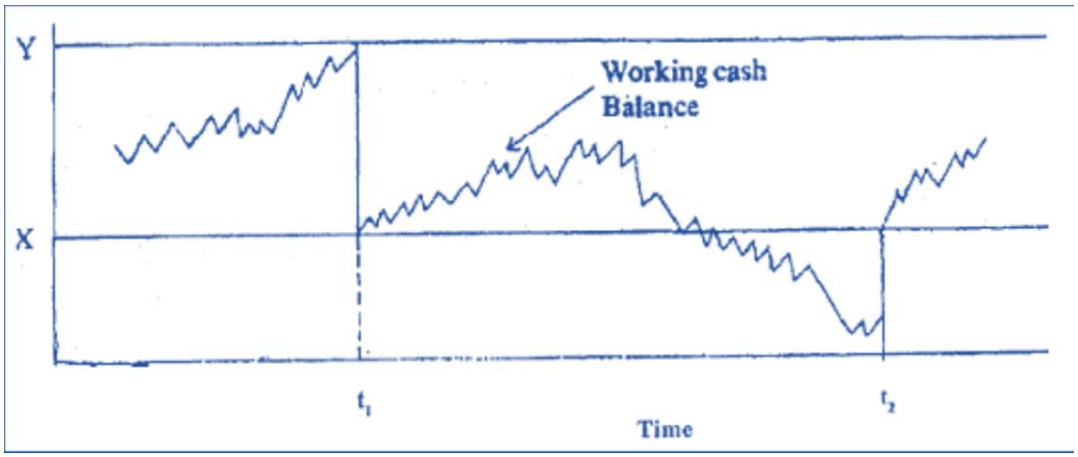

Figure 12.5 : Cash Balance Control Limits

The fluctuations in cash balance shown in the figure above are due to unpredictable receipts and payments. At time‘t’ where the cash balance touches the upper control point, excess cash is invested in marketable securities. At time ‘t_2’, the cash balance is at zero and marketable securities have to be sold off to generate cash. These two points indicate the maximum and minimum balances.

Therefore, when receipts and payments follow a random pattern, the managers will go by the principle: the greater the variability, the higher the minimum cash balance is.

Management of Cash Flows

Cash can be managed in the following ways:

Speeding up Collections

Reducing the time gap between making sales and collecting cash for those sales helps to minimize cash holding and control the cash flow. In order to do this, managers should focus on:

- There should be one account for depositing the collected cash. This is a more efficient way of storing cash than maintaining separate accounts as the aggregate cash requirement for different cash centers will be more than that for a single cash collection centre. In case there are separate accounts, they should be remitted in a main account quickly.
- The time difference between receiving a cheque and crediting the company’s bank account should be reduced. The ‘ Lock Box System’ is one way of doing that. It basically hires post boxes are different collection centers where cheques can be dropped off. The company’s bank can collect these cheques from post boxes every day in return for service charges. Big companies that have large transactions use this method for reducing the transaction time.

Recovering Dues

Receivables are created when goods are sold on credit wither to increase sales or as a business policy. The company must ensure that it does not lock too much cash in receivables to avoid slow repayment of debt or bad debts. It must follow up on its debtors and incentives like discounts for timely payment of debt can also help in recovery.

Controlling Disbursements

Similar to speeding up debt collections (which ensures the conversion of debtors into cash), trade credit is also a benefit for the business. The company can come to an agreement with its suppliers regarding the time after which it will pay the suppliers back. This delayed payment will reduce the required amount of the cash balance. Sometimes companies also take advantage of the time gap between issuing of a cheque and the actual date on which it is presented to the creditor. This is called the cheque book float.

Investment of Idle Cash Balances

The determination of an appropriate cash balance and investing idle cash balances in interest bearing securities are two important aspects of cash management. We have already discussed the ways of determining the optimum cash balance. We will move on to the second aspect.

Cash is not an income-earning asset if it is lying idle. Excess cash can be spent on short-term investments after ensuring that the company's liquidity is not being compromised on and analyzing the cost and benefits of holding or investing excess cash. Carrying extra cash as reserves may be for unforeseen events and avoiding risk because cash flows cannot be predicted with complete accuracy. There can be various factors that necessitate the holding of cash above minimum requirement such as technological changes, strikes, unexpected economic conditions, failure of products in the market etc.

Investment Criteria

After the managers have determined that there is no such requirement for idle cash balance, they should invest it in a way that yields returns and is quickly convertible into cash again. It should be ensured that

(i) The investment does not carry risk of default. In other words, there is no risk involved in the timely payment of interest and principle amount;

(ii) It is a short-term investment; and

(iii) The investment is easily convertible into cash i.e. it is marketable. An asset is said to be highly marketable if it can be sold quickly in a large quantity at a price that is determined in advance. Examples of such assets are commercial papers, government securities, and bankers' acceptances, just to name a few.

Further Reading:

- ✓ *James Sagner, (2011), Essentials of Working Capital Management*
- ✓ *I. M. PANDEY, (2005), FINANCE: A Management Guide*