

Financial Planning and Working Capital Management.

- **Financial planning**

Financial planning indicates a firm's growth, investments and requirements of funds during a given period of time, usually three to five years. It involves the preparation of projected or proforma financial statements, that is statement of financial position, statement of comprehensive income and cash flow statement. Financial planning and profit planning help a firm's financial manager to regulate flows of funds which is his primary concern.



Financial planning process.



- The financial planning process involves the following facets;
 1. Evaluating the current condition of the firm.
 2. analyzing the growth prospects and options
 3. Appraising the investment options to achieve the stated growth objective.
 4. Projecting the future growth and profitability.
 5. Estimating funds requirements and considering alternative financial options.
 6. Comparing and choosing from alternative growth plans and financing options.
 7. Measuring actual performance with the planned performance.

Financial forecasting



- Financing forecasting is an integral part of financial planning .it uses past data to estimate the future financial requirements. A financial planning model establishes the relationship between financial variables and targets, and facilitates the financial forecasting and planning process. A model makes it easy for the financial managers to prepare financial forecasts. It makes financial forecasting automatic and saves the financial managers time and efforts performing a tedious activity. Financial planning models help in examining the consequences of alternative financial strategies.

Components of a financial planning model



- **Inputs**

The model builds with the firm's current financial statements and the future growth prospects. The firm's growth prospects depend on the market growth rate, firm's market share and intensity of competition.

- **Model**

The model defines the relationship between financial variables and develops appropriate equations. E.g. Relating net working capital and fixed assets investment to sales.

- **Output**

Applying the model equations to the inputs, output in the form of projected or proforma financial statements. The output shows the investment and funds requirement given the sales growth objective and relationship between the financial variables.

Steps in financial planning



- Financial forecasting is the basis for financial planning. Forecasts are merely estimates based on the past data. Historical performance may not occur in the future. Planning means what the company would like to happen in future ,and includes necessary action plans to realizing the predetermined intentions.
- The following steps are involved in financial planning;



- **Past performance**

Analysis of the firm's past performance to ascertain the relationships between financial variables, and the firm's financial strengths and weaknesses.

- **Operating characteristics**

Analysis of the firm's operating characteristics- product, market, competition, production, and marketing policies, control systems, operating risk etc to decide about its growth objective.

- **Corporate strategy and investment needs**

Determining the firm's investment needs and choices, given its growth objective and overall strategy.





- **cash flow from operations**

Forecasting the firms revenues and expenses and need for funds based on its investment and dividend policies.

- **financing alternatives**

Analyzing financial alternatives within its financial policy and deciding the appropriate means of raising funds.

- **consequences of financial plans**

Analyzing the consequences of its financial plans for the long-term health and survival to the firm.

- **Consistency**

Evaluating the consistency of financial policies with each other and with the corporate strategy.



- Financial planning involves the questions of affirms long-term growth and profitability and investment and financing decisions .it focuses on aggressive capital expenditure programmes and debt equity mix rather than the individual projects and sources of finance. Financial planning also involves an interface between the corporate policy and financial planning and the trade off between financial policy variables.

Working Capital Management.



- **Introduction**
- Working capital, also known as "WC", is a financial metric which represents operating liquidity available to a business. Along with fixed assets such as plant and equipment, working capital is considered a part of operating capital. It is calculated as current assets minus current liabilities. If current assets are less than current liabilities, an entity has a working capital deficiency, also called a working capital deficit.
- Working Capital = Current Assets – Current Liabilities



- The management of working capital involves managing inventories, accounts receivable and payable and cash.
- Decisions relating to working capital and short term financing are referred to as working capital management. These involve managing the relationship between a firm's short-term assets and its short-term liabilities. The goal of working capital management is to ensure that the firm is able to continue its operations and that it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses.





- By definition, working capital management entails short term decisions - generally, relating to the next one year period - which is "reversible". These decisions are therefore not taken on the same basis as Capital Investment Decisions (NPV or related) rather they will be based on cash flows and / or profitability.
- One measure of cash flow is provided by the [cash conversion cycle](#) - the net number of days from the outlay of cash for [raw material](#) to receiving payment from the customer. As a management tool, this metric makes explicit the inter-relatedness of decisions relating to inventories, accounts receivable and payable, and cash. Because this number effectively corresponds to the time that the firm's cash is tied up in operations and unavailable for other activities, management generally aims at a low net count.



- In this context, the most useful measure of profitability is Return on capital (ROC). The result is shown as a percentage, determined by dividing relevant income for the 12 months by capital employed; Return on equity (ROE) shows this result for the firm's shareholders. Firm value is enhanced when, and if, the return on capital, which results from working capital management, exceeds the cost of capital, which results from capital investment decisions as above. ROC measures are therefore useful as a management tool, in that they link short-term policy with long-term decision making.



- Guided by the above criteria, management will use a combination of policies and techniques for the management of working capital. These policies aim at managing the current assets (generally cash and cash equivalents, inventories and debtors) and the short term financing, such that cash flows and returns are acceptable.

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Cash management.



- The objective is to identify the cash balance which allows for the business to meet day to day expenses, but reduces cash holding costs.

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Inventory management.



- The objective is to identify the level of inventory which allows for uninterrupted production but reduces the investment in raw materials - and minimizes reordering costs - and hence increases cash flow

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Debtors' management.

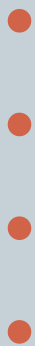


- The objective is to identify the appropriate credit policy, i.e. credit terms which will attract customers, such that any impact on cash flows and the cash conversion cycle will be offset by increased revenue and hence Return on Capital.
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Short term financing.



- The objective is to identify the appropriate sources of financing, given the cash conversion cycle: the inventory is ideally financed by credit granted by the supplier; however, it may be necessary to utilize a bank [loan](#) (or overdraft), or to "convert debtors to cash" through "[factoring](#)".



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Basic Cash Flow Management



- Managing cash must take an equal stature with Net Income. In financial management, "cash is king" is a frequent motto. So your first step in managing cash is to elevate the importance of cash. The basic process for managing cash is straightforward. Try to maintain an adequate level of cash to meet current obligations and invest idle cash into earning assets. Earning assets must have high liquidity; i.e. you must be able to convert investments back into cash quickly. Additionally, you want to protect your cash balance by paying obligations only as they come due.
- Managing cash also involves aggressive conversion of current assets into cash.



- Inventory levels must be converted into accounts receivables and accounts receivables must be converted into cash. Ratios should be used to monitor the conversion of cash, such as number of days in inventory and number of days in receivables. Cash balances are the end result from a combination of cycles: inventory, purchasing, receivables, payables, etc. The key is to properly manage these cycles for conversion into cash.
- Once conversion cycles are identified, cash forecasts can be prepared for managing cash. Weekly cash reports are used to monitor balances. Since everything ultimately passes through your cash account, a strong internal control system is required. This involves the separation of duties in handling cash, reconciling cash accounts, adequate support for cash disbursements, and other control procedures. The overall objective is to protect cash just like any other asset through a system of internal controls.

Motives for holding cash.



Transaction motive

To meet day-to-day commitments. The firm needs cash to make payments for purchases, wages and salaries, other operating expenses, taxes, dividends etc. The need to hold cash would not arise if there were perfect synchronization between cash receipts and cash payments i.e. enough cash is received when the payment has to be made. But cash receipts and cash payments are not perfectly synchronized. Therefore transaction motive mainly refers to holding cash to meet anticipated payments whose timing is not perfectly matched with cash receipts.



Precautionary motive

- Holding a balance of cash as future cash flows may be uncertain for any reason. It provides a cushion or buffer to withstand some unexpected emergency. The precautionary amount depends upon the predictability of cash flows. If cash flows can be predicted with accuracy, less cash will be maintained for an emergency.



Speculative motive

- Holding cash in order to be in a position to exploit profitable opportunities as and when they arise. For instance for investing in profit-making opportunities as and when they arise. The firm will hold cash, when it is expected that interest rates will rise and security prices will fall.

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Controlling the cash balance

- If a business is able to borrow quickly at a favourable rate, the amount of held cash can be reduced.

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OPTIMAL CASH BALANCE



- Another aspect of cash management is knowing the optimal cash balance. There are a number of methods that try to determine the magical cash balance, which should be targeted so that costs are minimized and yet adequate liquidity exists to ensure bills are paid on time (hopefully with something left over for emergency purposes). One of the first steps in managing the cash balance is measuring liquidity. There are numerous ways to measure this, including: cash to total assets ratio, current ratio (current assets divided by current liabilities), quick ratio (current assets less inventory, divided by current liabilities), and the net liquid balance (cash plus marketable securities less short-term notes payable, divided by total assets). The higher the number generated by the liquidity measure, the greater the liquidity and vice versa. There is a trade off, however, between liquidity and profitability that discourages firms from having excessive liquidity.

CASH MANAGEMENT MODELS



- To help manage cash on a day-to-day basis in actual dollars and cents, there are a number of cash management models. These include the Baumol Model, Miller-Orr Model, and the Stone Model.

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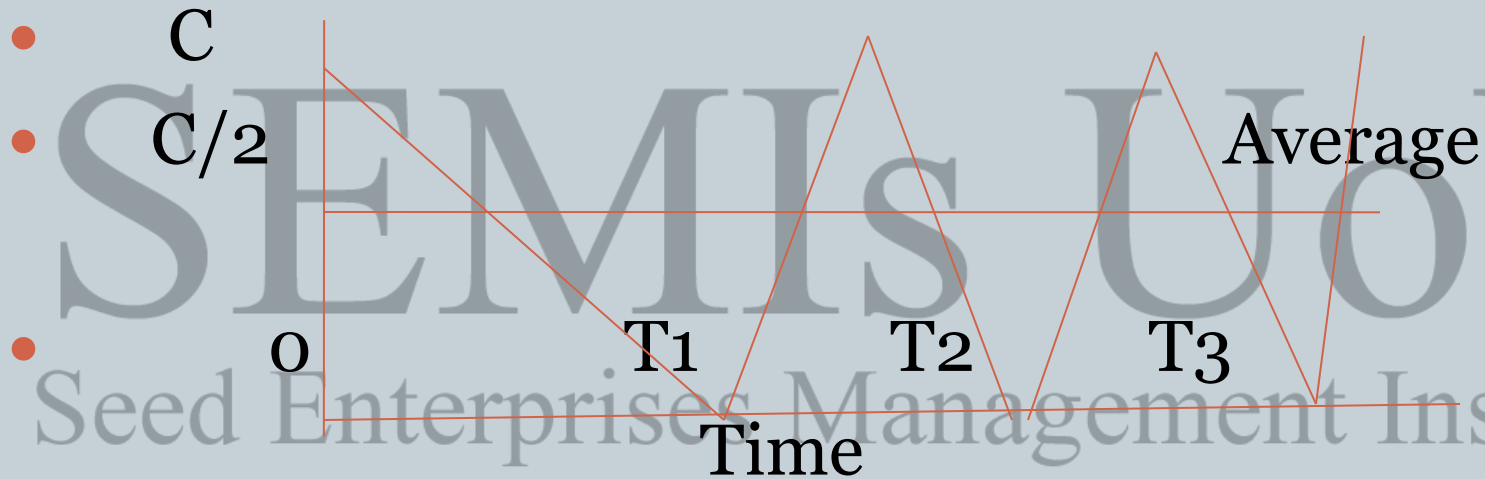
BAUMOL MODEL.



- The baumols model of cash management provides a formal approach for determining a firm's optimum cash balance under certainty. The firm attempts to minimize the sum of the cost of holding cash (inventory of cash) and the cost of converting marketable securities to cash.
 - The model makes the following assumptions.
 - The firm is able to forecast its cash needs with certainty.
- I. The firm's cash payments occur uniformly over a period of time.
 - II. The opportunity cost of holding cash is known and it does not change over time.
 - III. The firm will incur the same transaction cost whenever it translates securities to cash.



- Cash balance



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Baumols model for cash balance



- Assuming that the firm sells securities and starts with cash balance of shs.C.as the firm spends cash, its cash balance decreases steadily and reaches zero. The firm replenishes its cash balance to shs.C by selling marketable securities. This pattern continues over time. Since the cash balance decreases steadily, the average cash balance will be; $C/2$.

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Optimal cash balance



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Explanation



- The firm incurs a holding cost for keeping the cash balance. It is an opportunity cost; that is the return foregone on the marketable securities. Transaction cost is incurred whenever the firm converts its marketable securities to cash. Total cost comprise holding and transaction costs.
- Holding costs increase as demand for cash, C , increases. However, the transaction cost reduces because with increasing cash the number of transactions will decline.
- Therefore the optimal cash balance is obtained when the total cost is minimum.
- One shortcoming of this model is that it accommodates only a net cash outflow situation as opposed to both inflows and outflows. Also, the cash outflow is at a constant rate, with no variation.

MILLER-ORR MODEL.



- The Miller-Orr Model rectifies some of the deficiencies of the Baumol Model by accommodating a fluctuating cash flow stream that can be either inflow or outflow. The Miller-Orr Model has an upper limit U and lower limit L
- When there is too much cash and U is reached, cash is taken out (to buy short-term [securities](#) to earn interest) such that the cash balance goes to a return (R) point. Otherwise, if there is too little cash and L is reached, cash is deposited (from the short-term investments) to replenish the balance to R .

Diagrammatically presented as below



Cash balance



Miller-Orr model



- L is determined by other means, for example, compensating balance requirement, minimum balance to avoid bank service charges on checking account, or zero.

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STONE MODEL.



- The Stone Model is somewhat similar to the Miller-Orr Model insofar as it uses control limits. It incorporates, however, a look-ahead forecast of cash flows when an upper or lower limit is hit to take into account the possibility that the surplus or deficit of cash may naturally correct itself. If the upper control limit is reached, but is to be followed by cash outflow days that would bring the cash balance down to an acceptable level, then nothing is done. If instead the surplus cash would substantially remain that way, then cash is withdrawn to get the cash balance to a predetermined return point. Of course, if cash were in short supply and the lower control limit was reached, the opposite would apply. In this way the Stone Model takes into consideration the cash flow forecast.
- The goals of these models are to ensure adequate amounts of cash on hand for bill payments, to minimize transaction costs in acquiring cash when deficiencies exist, and to dispose of cash when a surplus arises. These models assume some cash flow pattern as a given, leaving the task of cash collection, concentration, and disbursement to other methods.

Investing of surplus cash



- Short-term investment decisions
- A key cash management problem (including how much money and for how long) concerns in which [money market instruments](#) should the temporary excess funds be placed. This short-term investment decision necessitates the analysis of return (need to annualize returns in order to compare) and liquidity. Only short-term investments meet the liquidity test, as long-duration instruments expose the investor to too much interest rate risk. In addition, federal government obligations are popular due to the absence of [default](#) risk and ease of resale in the secondary market. Nonetheless, there are numerous money market securities available with varying characteristics from many types of issuers.

Short term investment opportunities may include the following



- treasury bills
- commercial papers
- bank deposits
- money market mutual funds

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Inventory management



- Inventories are stocks of the product a company is manufacturing for sale and components that make up the product . The various forms in which inventories exist in a manufacturing company are

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- **Production supply (raw materials)** – the initial inputs into the production process that are converted into finished product through the manufacturing process.
- **Work- in-process process (semi-finished goods)** items beyond the raw material stage but not yet at the completed product stage. They represent products that need more work before they become finished products for sale.
- **Finished goods** – completed goods which are ready for sale.

Need to hold inventories



- There are three general motives for holding inventories
- ***transaction motive***

Emphasizes the need to maintain inventories to facilitate smooth production and sales operations.
- ***precautionary motive***

Necessitates holding of inventories to guard against the risk of unpredictable changes in demand and supply forces and other factors.
- ***speculative motive***

Influences the decision to increase or reduce inventory levels to take advantage of price fluctuations.

Objectives of inventory management



- In the context of inventory management, the firm is faced with meeting two conflicting needs :
 1. To maintain a large size of inventories of raw material and work in progress for efficient and smooth production and of finished goods for uninterrupted sales operations.
 2. To maintain a minimum investment in inventories to maximize profitability.

Both excessive and inadequate inventories are not desirable. The objective of inventory management should be to determine and maintain optimum level of inventory investment.

Major dangers of over investment



1. Unnecessary tie-up of the firm's funds and loss of profit.
2. The excessive level of inventories consumes funds of the firm, which cannot be used for any other purpose, and, thus it involves an opportunity cost.
3. excessive carrying costs
The carrying costs, such as the costs of storage, handling, insurance, recording and inspection also increase in proportion to the volume of inventory.

Major consequences of under-investment in inventories



- production hold-ups

Inadequate raw materials and work in progress inventories will result in frequent production interruptions.

- Failure to meet delivery commitments.

If finished goods inventories are not sufficient to meet the demand for customers regularly, they may shift to competitors, which will amount to permanent loss to the firm.



A firm should, therefore, attempt to maintain an optimum level of inventory. For effective management of inventory, a firm should;

- plan its production and estimate its raw materials requirement accordingly
- Not only consider production plans, but also other factors such as usage, supply delays etc in deciding upon the level of raw material inventory.
- Start control of inventories with the purchase of raw materials since after commitment to purchase has been made or raw material has been actually purchased, there can be very little control.



- decide about the level of finished goods inventory ,keeping in mind customers demand ,periods of peak demand ,costs of lost sales ,competitors polices etc
- minimize cost of holding inventories, subject to production and sales plans
- identify the most critical items of inventories and devote maximum attention in their control
- Achieve inventory control through concerted efforts by involving purchase, production marketing and finance executives.
- Develop a proper reporting system for inventory control. Slow moving inventories must be highlighted and immediate action initiated to redeem the situation.



Controlling inventory

- Two important aspects of inventory control are: the size of inventory and analysis and classification of the various materials.

Inventory size

Control of inventories starts with the purchase of raw materials and the quantity of raw material to be ordered and the timing of the purchase are critical for this.

Ordering costs include costs of requisition, placing of order, freight charges, receiving, inspecting and storing of goods, accounting administrative costs etc

- Most of these costs increase with the number of orders.
- Carrying costs or holding costs are incurred to maintain inventories. They include costs of storing, handling insurance, deterioration in storage, administration etc
- Carrying costs vary with levels of inventory.
- A firm should order only a quantity of materials which minimizes the total of ordering and carrying costs.

Illustration.



- ABC Company projects annual requirement of one item of material at 60,000 units. The purchase price per unit is kshs.55. ordering cost per order is kshs.100 and carrying cost per unit is kshs.0.48.
- Required
- How many units should the company order?

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Solution



- Let us calculate total ordering and carrying costs for different numbers of orders, say, 1, 4, 5, 6, 12, 15, and 20

Order size	60000	15000	12000	10000	5000
4000 3000					
Average inventory	30000	7500	6000	5000	2500
2000 1500					
No. of orders	1	4	5	6	12 15
20					
Carrying costs (shs)	14400	3600	2880	2400	1200
960 720					
Ordering costs (shs)	100	400	500	600	1200
1500 2000					
Total costs (shs)	14500	4000	3380	3000	2400
2460 2720					



- The total costs are minimum when the company places orders in the lots of 5000 each i.e 12 orders in a year.
- Average inventory is calculated as half of the inventory acquired in the beginning on the assumption that inventories will be evenly used up during the period.
- Economic order quantity (EOQ)
- The order size at which total carrying and ordering costs are minimum is called economic order quantity.



- The economic order quantity can readily be calculated by using the following formula:

$$EOQ = \frac{2 \times A \times O}{C}$$

- Where;
- O-is the ordering cost
- A-total annual requirements and
- C-is the carrying cost.

Illustration



- suppose the estimated production requirement is 1200 units, ordering cost per order is kshs.37.5 and carrying cost per unit is shs.1, the economic order quantity will be:

$$EOQ = \frac{2 \times 1200 \times 37.5}{1}$$

1

=300 units

The Cost of Financing Inventories



Minimum total cost

Optimal inventory



Cost

Carrying cost

Ordering cost

Order size

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- Inventory financing can be used where inventories are highly marketable and no threat of obsolescence exists. The inventory serves as collateral within the financing arrangement. Financing can occur up to 70% of inventory values provided that inventory prices are relatively stable. The costs of financing inventory can be very high; such as 6% over the prime lending rate.
- Three types of financing arrangements for inventory are available. They are floating liens, warehouse receipts, and trust receipts. Floating liens place a lien on the overall inventory stock. Warehouse receipts give the lender an interest in your inventory.
- And trust receipts represent a loan which is released as you sell your inventory.



Illustration



- You would like to finance kshs. 100,000 of your inventory. You need the funds for 3 months. You will use a warehouse receipt arrangement. This arrangement requires that you setup a separate area for the lender's inventory. You estimate an additional kshs. 2,000 in costs for storing and maintaining the inventory. The lender will advance you 80% at 16%.
- The cost of financing inventory is kshs. 5,200 as calculated below:



- $.16 \times .80 \times \text{shs } 100,000 \times 3/12 = \text{shs } 3,200 + \text{shs } 2,000$ or \$ 5,200.
-
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- Proper stock management –is important to the financial health of the firm – WHY?
- Reasons;
- Stock is difficult to manage because it crosses so many lines of responsibility.
- There are significant costs associated with holding stock as well as with holding too low level of stock – WHAT COSTS?

Procedures and techniques of stock management



- 1. Determining the average stock value (the average production supply value, the average work-in-process value, the average finished goods value)
- 2. Stock management models (EOQ)
- 3. Complex systems of stock management

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Receivables management



Cash flow is greatly affected by the policies established by a company with regard to:

- The choice of customers,
- the way in which sales are made,
- the sales invoicing system,
- the speedy correction of errors and resolution of disputes,
- the means of settlement,
- the monitoring of customer settlement performance,
- The overdue accounts collection system.

Why do firms grant credit?



Companies in practice feel the necessity of granting credit for several reasons ;

- ***Competition***

Generally the greater the degree of competition, the more the credit granted by a firm

- ***company's bargaining power***

If a company has a higher bargaining power vis-à-vis its buyers, it may grant no or less credit.

- ***buyers requirements***

In a number of business sectors buyers /dealers are not able to operate without extended credit.

- ***buyers status***

- Large buyers demand easy credit terms because of bulk purchases and higher bargaining power.



- ***relationship with dealers***

Companies sometimes grant credit to dealers to build long-term relationships with them or to reward them for their loyalty.

- ***marketing tool***

Credit is used as a marketing tool, particularly when a new product is launched or when a company wants to push its weak product.

- ***industry practice***

Small companies have been found to be guided by industry practice norm more than the large companies.

- ***transit delays***

This is a forced reason for the case of extended credit in the case of a number of firms. This is done to minimize delays.

Credit policy



- The term credit policy is used to refer to three decision variables
 1. credit standards
 2. credit terms
 3. Collection policy and procedures.
- The credit manager may administer the credit policy of the firm .it should however be appreciated that credit policy has important implications for the firms production, marketing, and finance functions. Therefore it is advisable that a committee that consists of the executives of production, marketing and finance departments formulates the firm's credit policy. Under this, the financial or credit manager should ensure that the firms value of the share is maximized. He does by answering the following questions.
-



- What will be the change in sales when a decision variable is altered?
 - What will be the cost of altering the decision variable?
 - How would the level of the receivable be affected by changing the decision variable?
 - How are expected rate of return and cost of funds related?
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Credit standards.



- Credit standards are the criteria which a firm follows in selecting customers for credit extension. The firm may have tight credit standards, that is, it may make sale mostly on cash basis, and may extend credit only to the most reliable and financially strong customers.
- Such standards will result in no bad debt losses, and; less cost of credit administration. But the firm may not be able to expand sales. The profit sacrificed on lost sales may be more than the costs saved by the firm. On the contrary if credit standards are loose the firm may have larger sales .but the firm will have to carry a larger receivable.

Credit analysis



Credit analysis influences the quality of the firms customers .there are two aspects of the quality of the customers;

- The time taken by customers to repay credit obligation.
The average collection period determines the speed of payments by customers. it measures the number of days credit sales remain outstanding.
- the default rate
- Default rate can be measured in terms of bad debt-losses ratio.-the proportion of uncollected receivable. Bad debts ratio indicates default risk.

Credit evaluation



Proper assessment of credit risks is an important element of credit management. It helps in establishing credit limits. In assessing credit risks, two types of errors occur;

- type I error- a good customer is classified as a poor credit risk
- Type II error –a bad customer is misclassified as a good credit risk.
- Both the errors are costly .type I error leads to loss of profits on sales to good customers who are denied credit. Type II error results in bad debt losses on credit sales made to risky customers.
- While misclassification errors cannot be eliminated fully, the firm can mitigate their occurrence by doing proper credit evaluation, viz.traditional credit analysis, and numerical credit scoring and discriminant analysis.

Traditional credit analysis



- The traditional approach to credit analysis calls for assessing the customer in terms of the “five Cs of credit”
- **character**
The willingness of the customer to honour his obligations. it reflects integrity ,a moral attribute that is considered very important by credit managers.
- **capacity**
The ability of the customer to meet his obligations from the operating cash flows.
- **capital**
The financial reserves of the customer. if the customer has problems in meeting credit obligations from operating cash flow ,the focus shifts to its capital.
- **collateral**
The security offered by the customer in the form of pledged assets
- **conditions**

The general economic conditions that affect the customer



- To get the information on the five Cs a firm may rely on the following;
- Financial statements
A searching analysis of the customers' financial statements can provide useful insights into the credit worthiness of the customer.
- Bank references
- The banker of the prospective customer may be another source of information. To ensure a higher degree of candour, the customer's banker may be approached indirectly through the firm granting credit.



- Experience of the firm
- Consulting ones own experience is very important .if the firm had previous dealings with the customer, then it is worth asking; how prompt has the customer been in making payments?
- Prices and yields on securities
- For listed companies, valuable references can be derived from market data. Higher the price –earning s multiple and lower the yield on bonds, other things being equal, lower will be the credit risk.
-

2.) Numerical credit scoring



The system involves the following steps

1. identify the factors relevant for credit evaluation
2. assign weights to these factors that reflect their relative importance
3. rate the customer on various factors, using a suitable rating scale (usually a 5-point scale or a 7-point scale is used)
4. for each factor, multiply the factor rating with the factor weight to get the factor score
5. add all the factor scores to get the customer rating index
6. based on the rating index, classify the customer

Illustration



Factor	factor weight	<u>rating</u>					
		5	4	3	2	1	
Factor score							
Past payment	0.30		x				1.2
Net profit margin	0.20		x				0.8
Current ratio	0.20			x			0.6
Debt-equity ratio	0.10		x				0.4
Return on equity	0.20	x					<u>1.0</u>

Rating index 4.00

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3.) Discriminant analysis

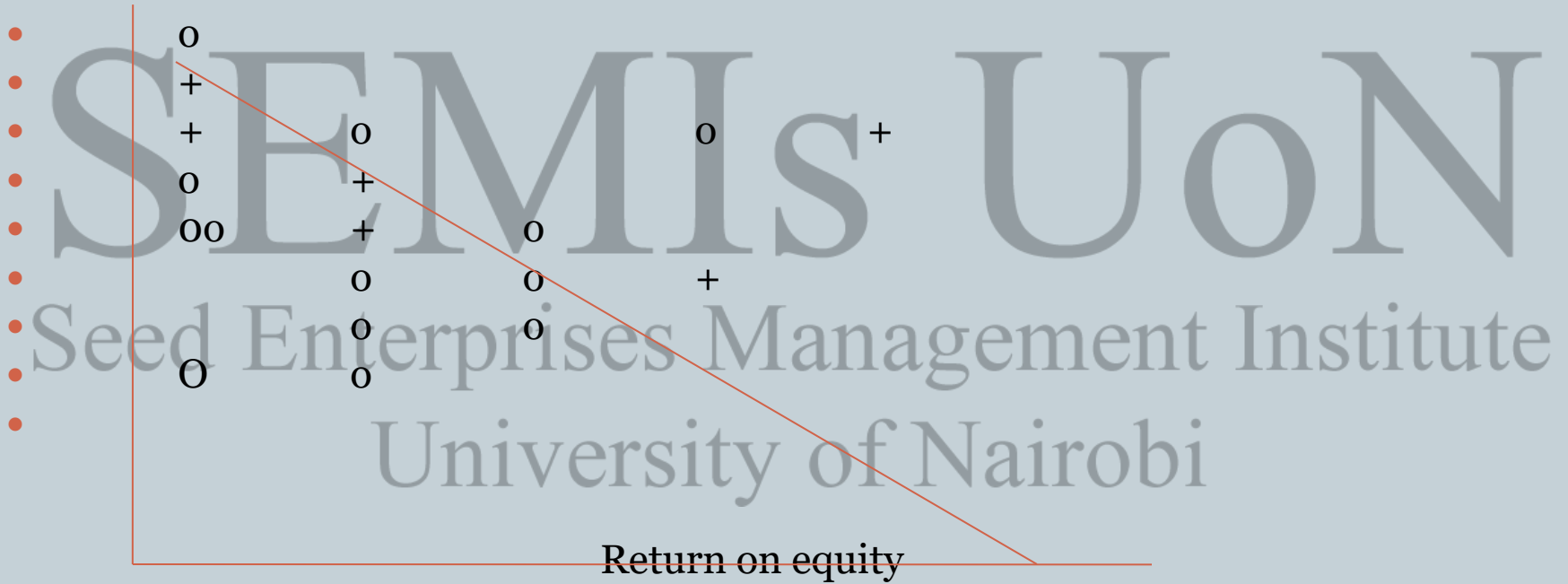


- This can be explained by the example below. it relies on ratios that seem to be the basic determinants of creditworthiness :current ratio and return on net worth. Then plot a graph of these two variables
- Discriminating power of current ratio and return on equity

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- Current
- Ratio
- +





- Note
- +s represent customers who have paid their dues and os represent customers who have defaulted. The straight line seems to separate the +s from os .
- The equation for this straight line is
- $Z = 1 \text{ Current ratio} + 0.1 \text{ return on equity}$
- since this is the line which discriminates between the good customers (those who pay) and the bad customers (those who default), a customer with a Z Score of more than 3 is deemed credit worthy and a customer with a Z score of less than 3 is considered not credit worthy. Of course the higher the Z score the higher the credit rating.
- The number 3 is an arbitrary constant.

Control of accounts receivable



- Methods used

I. Days sales outstanding

II. ageing schedule

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Day's sales outstanding



- The days sales outstanding (DSO) at a given time t , may be defined as the ratio of accounts receivable outstanding at that time to average daily sales figure during the preceding 30 days, 60 days, 90 days or some other relevant period.
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- $DSO_t = \frac{\text{accounts receivable at time } t}{\text{Average daily sales}}$
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Illustration



- Consider the monthly sales and month-end accounts receivable for ABC Company for the two quarters of the year

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Month	sales (shs)	receivables (shs)
January	150	400
February	156	360
March	158	320
April	190	310
May	170	300
June	180	320

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- Required
- DSO for each quarter

Solution



Quarter	320	DSO
First	$(150 + 156 + 158) / 90$	= 62
days		

- Ageing schedule
- The ageing schedule classifies outstanding accounts receivables at a given point of time into different age brackets

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Illustration



- Age group (in days) percent receivables

0-30

35

31-60

40

61-90

20

>90

5

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- Change in credit policy
- Cash discounts

Policies of trade credit



When offering to sell on credit, the business must have policies concerning:

- Which customers should receive credit?
- how much credit should be offered,
- what length of credit it is prepared to offer,
- whether discounts will be offered for prompt payment,
- what collection policies should be adopted,
- How the risk of non-payment can be reduced.

Phases of decision-making in management of receivables



- 1. Decision on offering trade credit
 - – Initial phase of management of receivables (who to grant credit to, how much, for how long) – establishing credit policy containing general guidelines then used by various managers
- 2. Management and monitoring the receivables balance receivables balance
 - – Phase containing methods, procedures, steps to ensure that amounts owing are collected as quickly as possible

Decision on offering trade credit



- Establishing credit policy and procedures (basic strategy establishing framework or guidelines). The credit-granting decision (whether to grant a credit – credit analysis; if yes, character and credit terms must be determined – type, advance payments, length of credit period, cash discount, credit limits)
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- Management and monitoring of the receivables
- Methods, procedures and steps to ensure that amounts owing are collected as quickly as possible:



- Publicize credit terms
- Issue invoices promptly
- Monitor outstanding debts
- Produce an ageing schedule of debtors
- Identify the pattern of receipts
- Answer queries quickly
- Deal with slow payers
- Reducing the risk of non-payment
- advance payments,
- offset amounts owed against amounts due,
- requiring a third-party guarantee



- legal title of the goods is not passed to the customer until they are paid for,
 - insurance to cover the costs of any legal expenses incurred in recovering debt,
 - insurance against the risk of non-payment
- Seed Enterprises Management Institute

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