

# **BUSINESS FINANCE**

*Part 1: (Chapter 1-4)*

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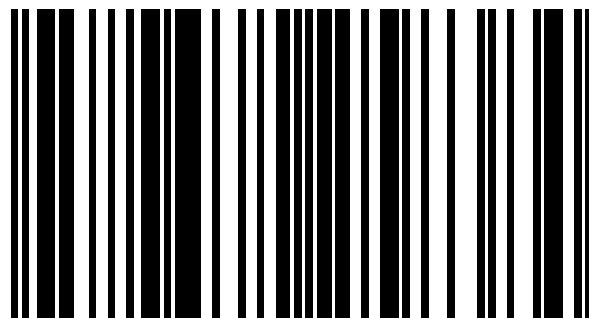
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**BUSINESS FINANCE**

**Module**

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**2021**

**JABATAN PERDAGANGAN**

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## PREFACE

Business Finance Module designed to assist student for better understanding in learning business finance in easier way. This book provide a guide of reference for Polytechnics students. This book provides an opportunity for students to be familiar with finance as well as increase their knowledge in business as well.

This book is revised edition to the module that have been used and written accordance with new Malaysian Polytechnics syllabus.

This book focuses on seven chapters of with some exercise at the end of chapter so that students will have better comprehension on particular topics. The chapters cover financial management, risk and return, financial analysis, working capital management, short term and long term financing, capital budgeting and leverage.

Finally, we hope that this module will be beneficial to all, especially Polytechnics students so that they can have clearer view on what is business finance is all about.

Happy reading!

TENGKU AROAL HAWA DELAILA BINTI TENGKU AHMAD  
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## ACKNOWLEDGEMENT

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## ABSTRACT

This module was created to introduce students to the subject of finance with a view to provide students with knowledge that can be developed in the financial specialism in a diploma programme. The goal of this module is to illustrate the basic financial decisions that finance managers face on a daily basis to students; to provide basic knowledge and understanding of what finance is and to engage students with the type of decision-making expected of those who are pursuing a career in this field. Business finance exposes students to the concepts of finance and methods used to manage an organization's financial planning. Basic finance theories and concepts are discussed as a benchmark in order to make financial decisions based on the financing and investment aspects in the short and long term. Besides that, financial analysis is used to analyze the financial positions of an organization. This module consists of seven chapters which is parallel to the syllabus prescribed by the Department of Polytechnic Education, Ministry of Higher Education of Malaysia and suitable used as a reference book for Polytechnic students pursuing business management course especially Diploma in Business Studies. Each chapter begins with learning outcomes and ends with the example of problem solving questions and past final exam questions. The effectiveness of this module has been tested where students are required to answer the questionnaires that have been distributed about the effectiveness of using this business finance module. The results showed that 93% of the students agreed that this module helped them in mastering this course while the remaining 7% answered neutral.

**Key words:** business finance, financial decisions, investment

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# CHAPTER 1: FINANCIAL MANAGEMENT

## (CLO 1, LD 1)

### LEARNING OBJECTIVES:

- a. Define the nature and purposes of financial management
- b. Describe the financial management roles and growth
- c. Explain the different company's objective in
  1. Maximizing profit
  2. Maximizing shareholder wealth
- d. Define the basics of financial management
  1. Explain principles that form the basics:
    - The risk returns trade off
    - The time value of money
    - Cash not profits is the king
    - Incremental cash flows
- e. The curse of competitive markets
- f. Efficient capital markets
- g. The agency problems
- h. Taxes bias business decisions
- i. All risk is not equal
- j. Ethical behavior means doing the right thing
  1. Elaborate the financial manager responsibilities in organization
  2. Determine the duties of a financial manager in
- a. Financial analysis and planning
- b. Investment decisions
- c. Financing decisions
- d. Monitoring and controlling
- e. Involvement in financial market



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# 1.0 INTRODUCTION

By definition it is the science of management of money (cash) and other assets. For example, as a finance person he or she must be able to manage and determine the amount of cash coming in and out of the firm so that he or she can plan for cash deficit or surplus. Any shortage of cash should be borrowed and any surplus should be invested (Faizah, 2015). According to Howard & Upton (1953), financial management “as an application of general managerial principles to the area of financial decision-making.

## 1.1 GOAL OF THE FIRM

In finance, goal of the firm is maximization of shareholders' wealth or maximization of the total market value of existing shareholders' common stock. However, in microeconomics courses the goal of the firm is profit maximization.

Why wealth maximization is a more appropriate goal than profit maximization is due to the following reasons:

<b>Time horizon</b>	In profit maximization short-term actions are geared towards getting as much current profit as possible with less emphasis on long-term profit however, wealth maximization takes into account both the long-term and short-term profit.
<b>Timing of returns</b>	Profit maximization ignores timing of returns and time value of money where else this is very important since a dollar today and a year from today and a year from today is not the same.
<b>Distribution of returns</b>	Profit maximization goal ignores the fact that owners may wish to receive a portion of earnings in the form of dividend.
<b>Risk</b>	Profit maximization tends to give less consideration to risk in an attempt to maximize current profit.

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## 1.1.1 MAXIMIZATION OF PROFIT

This goal stresses on the efficient use of capital resources, but it is not specific with respect to the time frame over which profits are to be measured.

Profit maximization ignores many real-world complexities that financial managers must address in their decisions. There are two major factor not considered by the goal of profit maximization: uncertainly and risk and timing (Faizah, 2015).

## 1.1.2 MAXIMIZATION OF SHAREHOLDER'S WEALTH

This goal involved in modifying the goal of profit maximization to deal with the complexities of the operating environment – uncertainly and risk and timing.

Maximization of shareholder' wealth refers to maximization of the market value of existing shareholders common stock whereby the effects of all financial decisions are thereby included.

Investor react to poor investment or dividend decisions by causing the total value of the firm's stock to fall, and they react to good decisions by pushing up the price of the stock to. Under this goal, good decisions are those that create wealth for the shareholders.

The most preferable goal of the firm is maximization of shareholders wealth

Three (3) reasons for choosing the goal are:-

1. The stock holder is the owner of the company and they choose the top management to run the company. Therefore, the management is responsible to serve them to their best interest.
2. The manager of the company faces high risks compared to the stock holders. This is because the stockholder usually diversifies their investment in other portfolios whereas the manager will have to suffer the total risks as a result of his wrong decisions.
3. Firms have to compete in order to get funds from the investors. In such a case, the firm has to serve its shareholders so that they invest more funds in the future. Shareholders will only invest in a stable, established and successful company that can increase their wealth.

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## 1.2 FUNCTIONS OF FINANCIAL MANAGER

To acquire funds at the cheapest cost

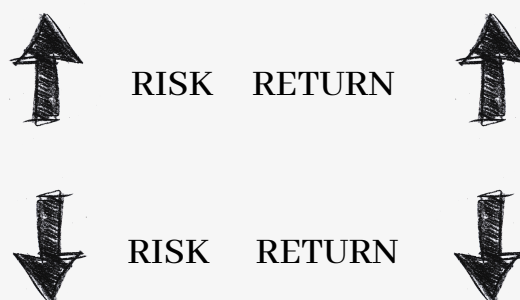
To use these funds effectively that is to profitable or viable projects

To set up policy on working capital management

To set up a good dividend policy

## 1.3 RISKS AND RATES OF RETURN RELATIONSHIP

Almost all financial decisions involve some sort of risk-return tradeoff. What is risk? Risk means probability of becoming insolvent (in ability to pay debt) or the potential variability in future cash flows. It is found that the risk the higher will be the return and vice versa.



A firm which is willing to assume more risk will definitely expect a higher return from that particular course of action.

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# 1.4 THE BASIC PRINCIPLES OF FINANCIAL MANAGEMENT

## 1. The Risk-Return Trade-off

- We won't take on additional risk unless we expect to be compensated with additional return.
- Investment alternatives have different amounts of risk and expected returns.
- The more risk an investment has, the higher its expected return will be.

## 2. The Time Value of Money

- A dollar received today is worth more than a dollar received in the future.
- Because we can earn interest on money received today, it is better to receive money earlier rather than later.

## 3. Cash—Not Profits—Is King

- Cash Flow, not accounting profit, is used as our measurement tool.
- Cash flows, not profits, are actually received by the firm and can be reinvested.

## 4. Incremental Cash Flows

- It is only what changes that counts
- The incremental cash flow is the difference between the projected cash flows if the project is selected, versus what they will be, if the project is not selected.

## 5. The Curse of Competitive Markets

- It is hard to find exceptionally profitable projects
- If an industry is generating large profits, new entrants are usually attracted. The additional competition and added capacity can result in profits being driven down to the required rate of return.
- e.g. - Product Differentiation, Service and Quality can insulate products from competition

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## 6. Efficient Capital Markets

- The markets are quick and the prices are right.
- The values of all assets and securities at any instant in time fully reflect all available information.

## 7. The Agency Problem

- Managers won't work for the owners unless it is in their best interest
- The separation of management and the ownership of the firm creates an agency problem.
- e.g. - Managers may make decisions that are not in line with the goal of maximization of shareholder wealth.

## 8. Taxes Bias Business Decisions

- The cash flows we consider are the after-tax incremental cash flows to the firm as a whole.

## 9. All Risk is Not Equal

- Some risk can be diversified away, and some cannot
- The process of diversification can reduce risk, and as a result, measuring a project's or an asset's risk is very difficult.

## 10. Ethical Behavior means doing the right thing.

- Each person has his or her own set of values, which forms the basis for personal judgments about what is the right thing

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## 1.5 FINANCIAL SECTOR OF THE ECONOMY

<b>Public Finance</b>	<p>The first area in this field of public finance. It involves both government and other non-profit organization. At the federal or state levels include the management of cash funds, asset acquisition decisions, and obtaining borrowed funds. The non-profit organizations involve in managing of assets, controlling costs and obtaining funds to meet the organization's service objectives.</p>
<b>Securities Markets</b>	<p>The second area is in the field of securities markets. This involves the selling of stocks and bonds to individual and institutional customers, as well as the management of securities portfolio for bank trust department and life insurance covers under this category.</p>
<b>Financial Institutions</b>	<p>The third area is the area financial institutions or intermediaries. This includes banks insurance companies, mutual funds and others. These institutions collect funds from individual as well as institutions savers and invest in profitable ventures. Without these financial intermediaries funds cannot be tapped in for business purpose, purchasing of individual house and others. Financial institutions also involved in the outflow of capital formation and the organizations that finance them.</p>
<b>International Finance</b>	<p>The forth area in the field of international finance. It is an analysis of the economic transactions between countries and also individuals in the international levels. The study of the flow of funds involved not only liquid assets but also cash in hands or other revenues from foreign exchange.</p>

## **Business Financial Management**

The last area is in the field of business financial management. For a large firm involving in the production of goods and services may divide its finance activities into treasury and control functions. A small firm often combined both treasury and control functions together. In this competitive world, the financial executive must manage his fund efficiently in order to achieve the firm's objectives. Various techniques and tools are being used to help the financial executive in carrying out the job smoothly. These tools help the financial executive in determine which sources of financing offer the cheapest cost and which alternatives give the highest return in the capital invested. This is the main area of concern for the following chapters of this book.

## **1.6 DUTIES OF THE FINANCIAL MANAGER IN AN ORGANIZATION**

### **i. To analyze financial statements and do future planning**

Financial manager is responsible in analyzing and reviewing financial statements so as to monitor the financial aspects of the firm from time to time. He is also responsible in forecasting future planning for the firm.

### **ii. To decide on financing decisions**

A financial manager needs for the firm. He will have to select the most suitable sources of financing that is relevant to the time, amount and needs of the firm.

### **iii. To plan and decide on investment decision**

Financial manager is responsible in determining the firm's investment portfolios and its optimal level of investment in current assets and in fixed assets.

### **iv. To control the operations of the organization as a whole**

Financial manager needs to monitor the firm's operations regularly and plan activities that could generate income for the firm in the future.

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v. To interact with financial markets

Financial manager needs to interact closely with the participants of the money market and the capital market. Through this, sources of funds can be obtained, securities can be transacted and investors can earn their returns.

## 1.7 ADDITIONAL NOTES.

### 1. DIFFERENT COMPANY'S OBJECTIVE BETWEEN MAXIMIZING PROFIT AND MAXIMIZING SHAREHOLDER WEALTH.

MAXIMISING THE FIRM'S PROFIT	MAXIMISING THE SHAREHOLDER'S WEALTH
<ul style="list-style-type: none"><li>• Focusing on the accounting profit in the short run.</li></ul>	<ul style="list-style-type: none"><li>• Focusing on the shareholder's wealth in the long run.</li></ul>
A financial manager can easily increase current profits by reducing or eliminating research and development expenditures.	
<ul style="list-style-type: none"><li>• Ignoring the risk of investment.</li></ul>	<ul style="list-style-type: none"><li>• Taking into account the risk of the investment.</li></ul>
According to the concept of time value of money, rm1 received today worth more than rm1 received in the following year. This is because the rm1 received now can be reinvested and its value will increase.	
<ul style="list-style-type: none"><li>• Ignoring the cost of capital.</li></ul>	<ul style="list-style-type: none"><li>• Taking into account the cost of capital.</li></ul>
Accounting profit does not take into account the cost of shareholder capital.	



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## 2. FUNCTIONS OF FINANCIAL MANAGER.

- a. Forecasting and planning.
- b. Making investment decisions.
- c. Making financing decisions.
- d. Dealing with capital markets.
- e. Coordination and control.

# 1.8 PAST SEMESTER QUESTIONS

### QUESTION 1 [JUNE 2018]

State **FIVE (5)** basic principles of financial management. (5 marks)

### QUESTION 2 [DISEMBER 2017]

List **FIVE (5)** basics of Financial Management. (5 marks)

### QUESTION 3 [JUNE 2017]

List **THREE (3)** disadvantages for the objective of profit maximization. (3 marks)

State **TWO (2)** roles of Financial Manager in a large company. (2 marks)

### QUESTION 4 [DISEMBER 2016]

List **FIVE (5)** roles of Financial Manager in an organization (5 marks)

### QUESTION 5 [JUNE 2016]

Identify **FIVE (5)** financial manager responsibilities in an organization. (5 marks)

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## CHAPTER 2: RISK AND RETURN (CLO 1, LD 1)

### LEARNING OBJECTIVES:

**a. Explain the concept of return**

1. Defines return
2. Distinguish the rate of return for:
  - Required rate of return
  - Expected rate of return

**b. Determine the relationship between risk and return**

1. Calculate:
  - Required rate of return
  - Risk level (standard deviation)
  - Coefficient of variation for securities
2. Relate which investment proposal is viable based on the measured risk and return
3. Identify the types of risk and relationship between risk and return

---

## 2.1 RELATIONSHIP BETWEEN RISK AND RETURN

Returns in terms of accounting are what are recorded in the financial statements of the consolidated profit and loss. Returns are expressed as net profit. But especially its use in the measurement of returns more risk-oriented in future cash flows. Therefore, cash flows should be used to measure the returns rather than accounting profit. It is used for whatever type of security whether major shareholders, ordinary shares or a mixture of these.

Return is defined as the benefits that an investor will receive from an investment over some period (Faizah, 2015)

The relationship between risk and return is a fundamental financial relationship that affects expected rates of return on every existing asset investment. The Risk Return relationship is characterized as being a "positive" or "direct" relationship meaning that if there are expectations of higher levels of risk associated with a particular investment then greater returns are required as compensation for that higher expected risk. Alternatively, if an investment has relatively lower levels of expected risk then investors are satisfied with relatively lower returns.

This risk-return relationship holds for individual investors and business managers.

Greater degrees of risk must be compensated for with greater returns on investment. Since investment returns reflects the degree of risk involved with the investment, investors need to be able to determine how much of a return is appropriate for a given level of risk. This process is referred to as "pricing the risk". In order to price the risk, we must first be able to measure the risk (or quantify the risk) and then we must be able to decide an appropriate price for the risk we are being asked to bear.

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### 1. Risk

- Change of financial loss
- Assets having greater chance of loss

### 2. Return

- The total gain or loss experienced on an investment over a given period of time
- Commonly measured as cash distributions during the period

### Required rate of return

- The investor's required rate of return can be defined as the minimum rate of return necessary to attract an investor to purchase or hold a security.

### Expected rate of return

- The investor's expected rate of return can be defined as a return an investor thinks that the investment will generate in the future.
- Calculate Expected Rate Of Return

Table 2.1: percent probability, cash flow and percentage of return

Economy Situation	Probability (P)	Cash Flow from Investment	Return (%)
Recession	0.4	14 000	14 %
Normal	0.6	16 000	16 %
Rapid	0.5	18 000	18 %

- Formula :-

$$\bar{R} = R_1P(R_1) + R_2P(R_2) + \dots + R_nP(R_n)$$

or

$$\bar{R} = \sum R_iP(R_i) \text{ @ Probability at stage X Return}$$

$\bar{R}$  = expected rate of return

$R_i$  = return for condition i (interest)

P = probability for condition i

- Calculation :

$$\bar{R} = 0.4 (14\%) + 0.6 (16\%) + 0.5 (18\%)$$

$$= 0.056 + 0.096 + 0.09$$

$$= 24.2 \%$$

- Standard Deviation (Risk)
- More probability state possibility happen, increasing higher risk
- Calculate standard deviation

Table 2.1: percent probability, cash flow and percentage of return

Economy Situation	Probability (P)	Cash Flow from Investment	Return (%)
Recession	0.4	14000	14%
Average	0.6	16000	16%
Booming	0.5	18000	18%

As such, to assess something the security necessary makes comparison. If something the security have rate of return that equal to investment namely 24.2% but have standard deviation that higher for example, is hereby clear this investment were better because of the risks (standard deviation ) were low.

- Formula

$$\sigma = \sqrt{\sum (R_i - \bar{R})^2 P}$$

$\bar{R}$  = expected rate of return

$R_i$  = the rate of return

P = possibilities likely will return there

- Calculation :

$$\begin{aligned}\sigma &= \sqrt{\sum (14\% - 24.2\%)^2(0.4) + (16\% - 24.2\%)^2(0.6) + (18\% - 24.2\%)^2(0.5)} \\ &= \sqrt{0.010404(0.4) + 0.006724(0.6) + 0.003844(0.5)} \\ &= \sqrt{0.0041616 + 0.0040344 + 0.001922} \\ &= \sqrt{0.010118} \\ &= 10.1 \%\end{aligned}$$

### Coefficient Variation

Show amount at risk per rate of return ringgit expected. As such, lower coefficients were better.

- Formula :-

$$CV = \frac{\sigma}{\bar{R}}$$

CV = coefficient variation

$\bar{R}$  = expected rate of return

$\sigma$  = standard deviation

- Calculate coefficient

Table 2.3: percent probability, cash flow and percentage of return

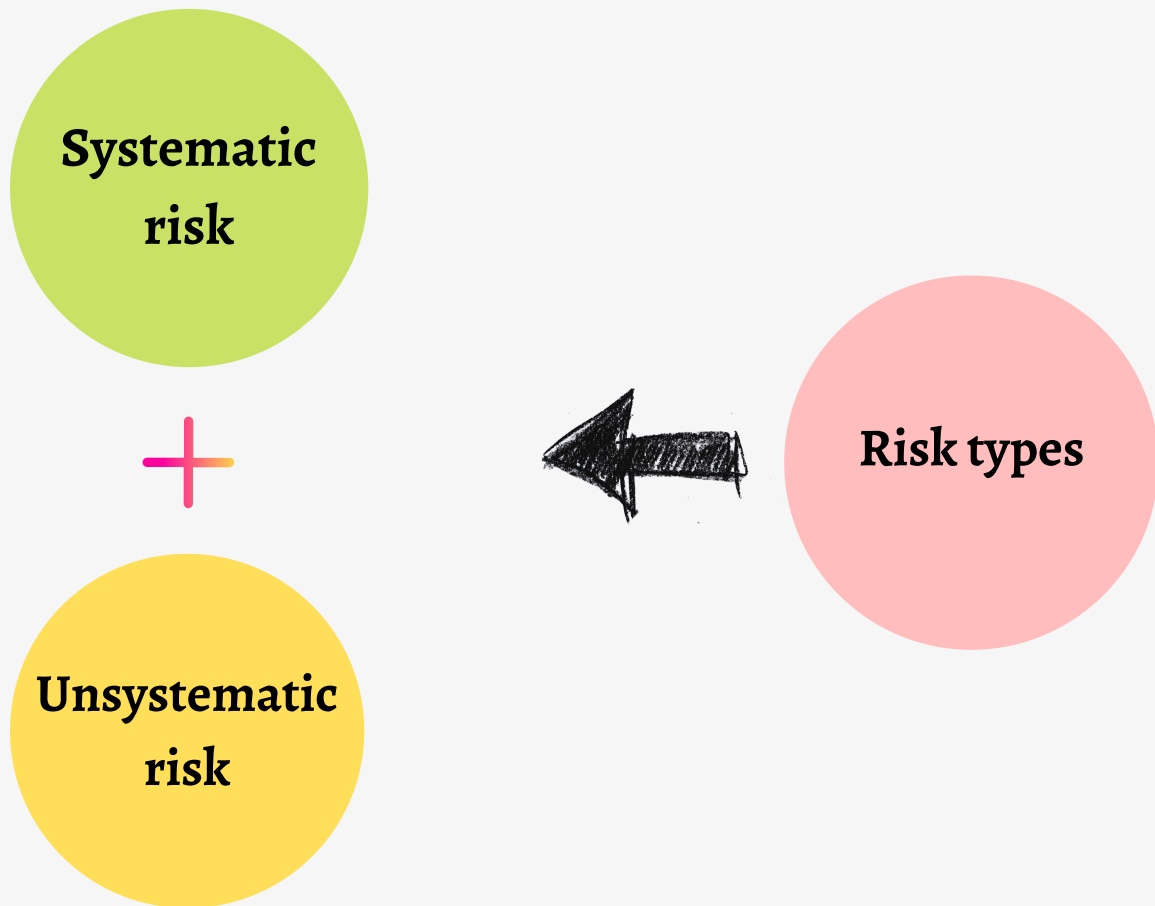
Economy Situation	Probability (P)	Cash Flow from Investment	Return (%)
Recession	0.4	14000	14%
Average	0.6	16000	16%
Booming	0.5	18000	18%

Calculation :

$$\begin{aligned}
 CV &= \frac{\sigma}{\bar{R}} \\
 &= \frac{10.1\%}{24.2\%} \\
 &= 0.4174
 \end{aligned}$$

---

## 2.2 RISK TYPES



### Unsystematic Risk

- Company or industry-specific risk as opposed to overall market risk  
unsystematic risk can be reduced through diversification. Also known as specific risk, diversifiable risk, and residual risk.
- The risk that is specific to an industry or firm.
- Examples of unsystematic risk include losses caused by labor problems, nationalization of assets, or weather conditions.
- This type of risk can be reduced by assembling a portfolio with significant diversification so that a single event affects only a limited number of the assets. Also called diversifiable risk.



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## Systematic Risk

- In finance, systemic risk is the risk of collapse of an entire financial system or entire market, as opposed to risk associated with any one individual entity, group or component of a system.
  - It can be defined as "financial system instability, potentially catastrophic, caused or exacerbated by idiosyncratic events or conditions in financial intermediaries".
1. It refers to the risks imposed by interlinkages and interdependencies in a system or market, where the failure of a single entity or cluster of entities can cause a cascading failure, which could potentially bankrupt or bring down the entire system or market. It is also sometimes erroneously referred to as "systematic risk".
- Examples of systematic risk are wars, rising inflation, and turbulent political events. Some effects of systematic risk can be minimized through asset allocation techniques and diversification because different portions of the market tend to underperform at different times. Also called market risk.

## Relationship between Risk and Return

- Relationship between risk and return as there is the link with investor. In general, investor requires return that high and low risk. Per investor having different attitudes on risk.
- There are three basis attitudes on risk namely :-
  - Risk averse
  - Risk taker
  - Risk indifferent

---

### **Risk Averse**

Willing invest and admit additional if this risk addition compensation with increase in return.

### **Risk Taker**

Willing to accept reduces in return to increase in risk. This investor like investment that risky and willing to accept reduction in returns because if this investment succeeds, the return is high.

### **Risk Indifferent**

Attitude where rate of return needed by investor will not change with internal change risk something investment.

## **2.3 PAST SEMESTER QUESTIONS**

### **QUESTION 1 [JUNE 2018]**

Assume that you are considering investing in different economic situations for the future. The information of the situation is as follows.

Economy Situation	Probability (P)	Return (RM)	
		Project A	Project B
Strong growth	0.6	3000	2500
Moderate	0.3	2300	2100
Recession	0.1	1950	1520

Based on the information above, calculate the following matters for each project:

- The expected rate of return for each project. (4 marks)
- The standard deviation of each project. (4 marks)
- The coefficient of variation for each project. (2 marks)

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**QUESTION 2 [DISEMBER 2017]**

2. The probability distribution of expected returns for stock BING and stock GANG are as follows:

Probability	Stock BING (%)	Stock GANG (%)
0.15	(15)	(25)
0.20	0	5
0.40	5	17
0.25	10	30

- i. Calculate the expected return for stock BING and GANG (2 marks)
- ii. Calculate the following:
  1. Variance (5 marks)
  2. Standard deviation (1 mark)
  3. Coefficient of variation (1 mark)
- iii. Determine which stock is riskier. (1 mark)

**QUESTION 3 [JUNE 2017]**

Based on the information below,

Economy Situation	Probability (P)	Expected Return	
		PRO X	PRO Y
Growth	0.4	6500	6582
Boom	0.2	6000	7219
Decline	0.3	5000	6991
Depression	0.1	21000	23938

---

You are required to calculate:

Expected rate of return for both projects (4 marks)

Standard deviation for both projects (6 marks)

#### **QUESTION 4 [DISEMBER 2016]**

ZARRA Enterprise that is still new in the market is planning to invest some funds to make money. The approach used is based on low-risk motive. Two security investment options, which are Security A and Security B have the following information:

Security A		Security B	
Probability	Return (%)	Probability	Return (%)
0.50	9	0.40	-5
0.50	10	0.60	45

Based on the given information:

- Calculate the expected returns for each security. (2 marks)
- Calculate the standard deviation for each security (6 marks)
- Which security should be chosen based on the calculation? State your reason. (2 marks)

#### **QUESTION 5 [DISEMBER 2015]**

Multitask Enterprise that is still new in the market is planning to invest some funds to make money. The approach used is based on low-risk motive. Two security investment options, which are LARA stock and NANA stock have the following information:

LARA STOCK		NANA STOCK	
Probability	RM	Probability	RM
0.2	7200	0.3	5200
0.3	8400	0.3	5200
0.5	9200	0.4	7200

Based on the given information:

- Calculate the expected returns for each stock. (4 marks)
- Calculate standard deviation of expected returns for each stock. (6 marks)
- Calculate the coefficient of variation (CV) for each stock. (6 marks)
- Which stock should be chosen based on the calculation? State your reason. (2 marks)

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## CHAPTER 3 : FINANCIAL ANALYSIS (CLO1,LD1), (CLO2, LD2)

### LEARNING OBJECTIVES:

- a. Explain types of financial statement
  1. Define financial statement
  2. Outline types of financial statement
    - Income Statement
    - Statement of Financial Positions
- b. Explain the concept of financial ratios
  1. Define financial ratios
  2. Distinguish between types of financial ratios:
    - Liquidity ratios
    - Activity ratio
    - Leverage ratios
    - Profitability ratios
  3. Describe the purpose of computing financial ratio
- c. Calculate each type of financial ratios
  1. Liquidity ratios
    - Current ratio
    - Quick ratio
    - Cash ratio
  2. Activity ratios
    - Inventory Turnover
    - Average Collection Period
    - Fixed Assets Turnover
    - Total Assets Turnover
  3. Leverage ratios
    - Debt ratio
    - Times interest earned
    - Debt to equity ratio
  4. Profitability ratios
    - Gross profit margin
    - Operating profit margin
    - Net profit margin
    - Return on assets
    - Return on equity
  5. Apply the ratios to interpret the financial statements

---

## 3.1 INTRODUCTION TO THE FINANCIAL STATEMENT

- A process translates data that occur in one organization financial statement business to information which for use parties that have interest on that business.
- There are a number of financial statement analysis approaches that is often used by analysis to be used as a guide to the performance of the company.

### **The Financial statement used to:**

- Communicative with external parties that has interest in corporate such as shareholder, bondholder and creditor.
- It also used in company to draw a range of activities.
- To monitor employee achievement and it needed for taxation purpose.

## 3.2 TYPES OF FINANCIAL STATEMENTS

- Financial statement is main output accounting process. Finance statements that published in annual report are income statement, balance sheet, cash flow statement and notes.
- This statement able to distribute the information on company to users to make informed decisions.

### 1. Balance Sheet

- Balance Sheet to report the financial position of the company at a particular point of time.

---

Bimasakti Sdn. Bhd.

Balance Sheet for December 31, 2018

(RM)

Asset

Cash	6,080	
Marketable Securities	4,600	
Accounts receivable	36,640	
Inventories	56,060	
Total current assets		103,380
Buildings and equipment	88,200	
(-) Depreciation	(23,800)	
Total fixed assets	64,400	
Total Assets		167,780

Liabilities and Equity

Accounts payable	20,442	
Notes payable	18,000	
Taxes payable	7,400	
Short-term debt	9,204	
Total current liabilities		55,046
Long-term debt		54,000
Common Equity	39,367	
Retained Earnings	19,367	
Common stockholders' equity		58,734
Total Liabilities and equity		167,780

*E.g Balance sheet*



---

## 2. Income Statement

- Company's income statement shows the company's operations for a period of time. It reported revenue, expenses and profits or losses for a period of time.

Bimasakti Sdn Bhd		
Income Statement for the Year Ended December 31, 2018		
	(RM)	
Sales	325,520	
Less: cost of goods sold	(270,600)	
Gross Profits		54,920
Operating expenses:		
Sales	12,080	
Administrative	17,800	
Total operating expenses		(29,880)
Earnings before interest and taxes		25,040
Interest		(7,320)
Earnings before tax (EBT)		17,720
Taxes		(6,026)
Earnings after taxes (EAT)		11,694
Common stock dividends		(5,600)
Net Income		6,094

### *E.g Income Statement*

## 3. Cash flow statement

- The cash flow statement shows the change in cash position during such period covered by the income statement. It complements the income statement and balance sheet. Change in cash position can be caused by a variety of transaction.

---

### Cash Flow Statement For Year Ended 31.12.2018

	(Rm'000)
	2000
Cash Flow From Operational Activity	
Gross Profit	25.9
Depreciation and Amortization	22.7
Reduction in A/C Receivable	(29.9)
Reduction in Inventory	(15.1)
Increase in A/C Pay Able	4.1
Increase in Accrued Expenses	15.7
Net Cash from Operational Activity	<u>23.4</u>
Cash Flow From Investment Activity	
Plant Purchase And Equipment	<u>(59.5)</u>
Net Cash from Investment Activity	<u>(59.5)</u>
	(Rm'000)
	2000
Cash Flow From Financing Activity	
Increase In Note Payable	33.0
Net Debt Long Term issued	4.20
Increase In Other Long Term Liability	1.90
Cash Dividend (Preference Stock & common stock)	(5.5)
Net Cash from Financing Activity	33.60
Increase (Reduction) In Cash	(2.5)
Cash Balance b/f	<u>12.00</u>
Cash Balance c/f	<u><u>9.5</u></u>

---

#### 4. Notes after Income Statement/ Notes to the account.

- An explanation of the calculation of earnings per share.
- Classification of inventory, investment plant and equipment and other asset.
- Summary by finance achievement.
- Cost and short-term loan amount.
- Long-term debt schedule, preference stock and other
- Common stock schedule that published.
- Change schedule retained earnings.
- Detailed information about the acquisition and disposal of assets.
- Business information according to branch.

### 3.3 CONCEPTS OF FINANCIAL RATIOS

- Ratios are mathematical aids for evaluation and comparison of financial performance (Rodziah 2013)
- Financial ratios are useful to the shareholder, management, investor and tax department. This is because financial ratios can give to the company's financial strength and weakness.
- This ratio allow certain parties to compare financial data of firms at least three conditions;

#### 1. **To ensure ratios are useful, there are 3 conditions must be fulfilled;**

- Evaluate firm ratio to identify pattern and firm direction (example during past 3 years ago)
- Compare firm ratio with other firm
- Compare firm ratio with industry average that time

#### 2. **This measurement is divided into 4 categories;**

##### a. LIQUIDITY

- This measurement is being done on cash and assets that can be changed into cash in a year and liability that need to be paid in a year. As such, to evaluate firm liquidity relatively.

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b. ACTIVITY RATIO

- This ratio measures the extent of the efficiency of firms using its resources to produce sales. Such the effectiveness and efficiency of investment management firm in inventories reflected in the number of times the inventory of parts is rotated throughout the year.

c. LEVERAGE RATIO

- Financial leverage or debt occurs when firms finance investment capital from sources other than the owner of ordinary shares in the firm or limited company.

d. PROFITABILITY RATIO

- Profitability ratios indicate effectiveness of the activities and transactions in the company's ability to generate profits. These ratios reflect operating results, risk and effects of leverage.

Example:

Bimasakti Sdn. Bhd.		
Balance Sheet for December 31, 2018		
	(RM)	
<b>Asset</b>		
Cash	6,080	
Marketable Securities	4,600	
Accounts receivable	36,640	
Inventories	56,060	
Total current assets		103,380
Buildings and equipment	88,200	
(-) Depreciation	(23,800)	
Total fixed assets		64,400
Total Assets		167,780

---

**Liabilities and Equity**

Accounts payable	20,442	
Notes payable	18,000	
Taxes payable	7,400	
Short-term debt	<u>9,204</u>	
Total current liabilities		55,046
Long-term debt		54,000
Common Equity	39,367	
Retained Earnings	<u>19,367</u>	
Common stockholders' equity		<u>58,734</u>
Total Liabilities and equity		<u><u>167,780</u></u>

**Galaxy Sdn Bhd****Income Statement for the Year Ended December 31, 2011****(RM)**

Sales	325,520	
Less: cost of goods sold	<u>(270,600)</u>	
Gross Profits		54,920
Operating expenses:		
Sales	12,080	
Administrative	<u>17,800</u>	
Total operating expenses		<u>(29,880)</u>
Earnings before interest and taxes		25,040
Interest		<u>(7,320)</u>
Earnings before tax (EBT)	17,720	
Taxes		<u>(6,026)</u>
Earnings after taxes (EAT)		11,694
Common stock dividends		<u>(5,600)</u>
Net Income		<u><u>6,094</u></u>

---

Required:

a. Compute the financial ratios for the company based on the Table 1 given below. Assume 360 days per year. Give your comment for each ratio in the column by indicating F if favorable and U if unfavorable.

(19.5 marks)

b. Give comment on the performance of the company in the following areas: liquidity and profitability.

(5.5 marks)

Table 1: Financial Ratios

Ratios	Company Ratios	Industry Norms	Comment
Current ratio		2.00 x	
Acid-test ratio		0.92 x	
Average collection period		42 days	
Inventory turnover		4.00 x	
Fixed asset turnover		3.4 x	
Total asset turnover		2.10 x	
Debt ratio		63%	
Debt equity ratio		156.2%	
Times interest earned		3.5 x	
Gross profit margin		15.64%	
Operating profit margin		6.2%	
Net profit margin		1.42%	
Return on assets (ROA)		3.11%	
Return on equity (ROE)		12.79%	

---

## A. LIQUIDITY RATIO

- CURRENT RATIO
- QUICK RATIO
- CASH RATIO

- Current Ratio

$$\text{current ratio} = \frac{\text{current asset}}{\text{current liability}}$$

Current asset = 103,380

Current liability = 55,046  
= 1.84x

Industry Norms = 2.00x

- Unsatisfactory

- Quick Ratio

$$\text{cash ratio} = \frac{\text{current assests - inventory}}{\text{current liability}}$$

- Because inventory is usually the most no liquid of assets of the firm. It is reasonable to reject the current assets. This allows a better measurement of liquidity.

Quick Ratio =  $\frac{103,380 - 56,060}{55,046}$   
= 0.86x

Industry Norms = 0.92x

- Unsatisfactory

- Cash Ratio

$$\text{cash ratio} = \frac{\text{cash} + \text{cash equivalents}}{\text{current liabilities}}$$

- Cash Ratio is the ratio of cash and cash equivalents of company to its current liabilities.

$$\begin{aligned}\text{Cash Ratio} &= \frac{6,080 + 4600}{55046} \\ &= 0.19 \times\end{aligned}$$

Industry Norm = 1.00x

- Unsatisfactory

## **B. EFFICIENCY RATIO/ACTIVITY**

- INVENTORY TURNOVER
- THE AVERAGE COLLECTION PERIOD
- TOTAL ASSET TURNOVER
- FIXED ASSET TURNOVER

- Inventory Turnover

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Inventory}}$$

$$\begin{aligned}\text{Inventory turnover} &= \frac{270600}{56060} \\ &= 4.823 \times\end{aligned}$$

Industry average = 4.00x

- Satisfactory



- The Average Collection Period

$$\text{The Average Collection Period} = \frac{\text{Account Receivable} \times 360 \text{ days}}{\text{Sales}}$$

$$\text{The average collection period} = \frac{36630 \times 360 \text{ days}}{325520}$$

$$= 40.51 \text{ days}$$

$$\text{Industry Average} = 42 \text{ Days}$$

- Satisfactory

- Total Assets Turnover

Shows how much the firm sales generated for every ringgit it has invested in assets.

$$\text{The Asset Turnover} = \frac{\text{Sales}}{\text{Total Assets}}$$

$$\text{The assets turnover} = \frac{325520}{167780}$$

$$= 1.94x$$

$$\text{Industry Average} = 2.10x$$

- Satisfactory

- Fixed Asset Turnover

This ratio measures the extent to which the efficiency of firms to use investment in fixed assets

$$\text{Fixed Asset Turnover} = \frac{\text{Sales}}{\text{Fixed Assets}}$$

$$\text{Fixed assets turnover} = \frac{325520}{88200}$$

$$= 3.69x$$

$$\text{Industry Average} = 3.4x$$

- Satisfactory

### C. LEVERAGE RATIO

- DEBT RATIO
- RETURN ON INVESTMENT
- DEBT EQUITY RATIO

- Debt Ratio

$$\text{Debt Ratio} = \frac{\text{Total liability}}{\text{Total Asset}}$$

$$\text{Debt Ratio} = \frac{55046 + 54000}{167780}$$

$$= 64.99\%$$

$$\text{Industry Average} = 63\%$$

- Unsatisfactory

- Return on Investment

$$\text{Return On Investment} = \frac{\text{Earnings before interest and tax}}{\text{Interest Expense}}$$

Return of investment = 25040

7320

= 3.42x

Industry Average = 3.5x

- Unsatisfactory

- Debt Equity Ratio

$$\text{Debt Equity Ratio} = \frac{\text{Total liabilities (debt)}}{\text{Shareholder's Equity}}$$

Total Liability = Current Liability + Long term Loans

Shareholder's Equity = Retained earning + common stock  
+ preferred stock

Debt Equity Ratio = 109046

58734

= 185.66%

Industry Average = 156.2%

- Unsatisfactory

---

## D. PROFITABILITY RATIOS

- GROSS PROFIT MARGIN RATIO
- OPERATING PROFIT MARGIN
- NET PROFIT MARGIN
- RETURN ON TOTAL ASSETS(ROA)
- RETURN ON OWNERS EQUITY(ROE)

- Gross Profit Margin Ratio

This ratio compares the gross profit to sales, and explains much of every dollar of sales resulted in gross profit.

Gross Profit Margin = 
$$\frac{\text{Gross Profit}}{\text{Sales}}$$

$$\begin{aligned}\text{Gross Profit Margin} &= \frac{54920}{325520} \\ &= 16.87\end{aligned}$$

Total Average = 15.54%

It reflects the ability of management to minimize the cost goods sold compared to the selling firm.

- Satisfactory

- Operating Profit Margin

Operating Profit Margin = 
$$\frac{\text{earnings before interest and tax (EBIT)}}{\text{Sales}}$$

(EBIT) = Interest Charge + earning before tax or pre tax

$$\begin{aligned}\text{Operating profit margin} &= \frac{25040}{325520} \\ &= 7.69\%\end{aligned}$$

Industry Average = 6.2%

Operating profit margin ratio is higher than industry average.

- Satisfactory

- 
- Net Profit Margin

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Sales}}$$

$$\begin{aligned}\text{Net Profit Margin} &= \frac{6094}{325520} \\ &= 1.87\%\end{aligned}$$

$$\text{Industry Average} = 1.42\%$$

This ratio reflects the cost of goods sold. Operating expenses and taxes are in control of management.

- Satisfactory

- Return On Total Assets (ROA)

This ratio to give the relationship between after tax income to total assets of the firm.

$$\text{Return on Total Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

$$\begin{aligned}\text{Return on total assets} &= \frac{6094}{167780} \\ &= 3.63\%\end{aligned}$$

$$\text{Industry Average} = 3.11\%$$

- Satisfactory

---

- Return on Owner Equity (ROE)

This ratio is net income less dividends, especially firms, the income for ordinary shareholders. It measures the efficiency of generating a profit to the company's shareholders.

$$\text{Return on Owner Equity} = \frac{\text{Net Profit}}{\text{Owner Equity}}$$

$$\begin{aligned}\text{Return on power Equity} &= \frac{6094}{58734} \\ &= 10.375\%\end{aligned}$$

$$\text{Industry Average} = 12.79$$

The return is low compared with industry averages where the position of shareholders is unsatisfactory.

## 3.4 ADVANTAGES OF RATIOS ANALYSIS:

- Ratio analysis is an important and historical technique of financial analysis. The following are some of the advantages / Benefits of ratio analysis:
- Simplifies financial statements: It simplifies the comprehension of financial statements. Ratios tell the whole story of changes in the financial condition of the business
- Facilitates inter-firm comparison: It provides data for inter-firm comparison. Ratios highlight the factors associated with with successful and unsuccessful firm. They also reveal strong firms and weak firms, overvalued and undervalued firms.
- Helps in planning: It helps in planning and forecasting. Ratios can assist management, in its basic functions of forecasting. Planning, co-ordination, control and communications.
- Makes inter-firm comparison possible: Ratios analysis also makes possible comparison of the performance of different divisions of the firm. The ratios are helpful in deciding about their efficiency or otherwise in the past and likely performance in the future.
- Help in investment decisions: It helps in investment decisions in the case of investors and lending decisions in the case of bankers etc.

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## 3.5 LIMITATIONS OF RATIOS ANALYSIS:

The ratios analysis is one of the most powerful tools of financial management. Though ratios are simple to calculate and easy to understand, they suffer from serious limitations.

- **Limitations of financial statements:** Ratios are based only on the information which has been recorded in the financial statements. Financial statements themselves are subject to several limitations. Thus ratios derived, there from, are also subject to those limitations. For example, non-financial changes though important for the business are not relevant by the financial statements. Financial statements are affected to a very great extent by accounting conventions and concepts. Personal judgment plays a great part in determining the figures for financial statements.
- **Comparative study required:** Ratios are useful in judging the efficiency of the business only when they are compared with past results of the business. However, such a comparison only provide glimpse of the past performance and forecasts for future may not prove correct since several other factors like market conditions, management policies, etc. may affect the future operations.
- **Ratios alone are not adequate:** Ratios are only indicators, they cannot be taken as final regarding good or bad financial position of the business. Other things have also to be seen.
- **Problems of price level changes:** A change in price level can affect the validity of ratios calculated for different time periods. In such a case the ratio analysis may not clearly indicate the trend in solvency and profitability of the company. The financial statements, therefore, be adjusted keeping in view the price level changes if a meaningful comparison is to be made through accounting ratios.
- **Lack of adequate standard:** No fixed standard can be laid down for ideal ratios. There are no well accepted standards or rule of thumb for all ratios which can be accepted as norm. It renders interpretation of the ratios difficult.

- Limited use of single ratios: A single ratio, usually, does not convey much of a sense. To make a better interpretation, a number of ratios have to be calculated which is likely to confuse the analyst than help him in making any good decision.
- Personal bias: Ratios are only means of financial analysis and not an end in itself. Ratios have to be interpreted and different people may interpret the same ratio in different way.
- Incomparable: Not only industries differ in their nature, but also the firms of the similar business widely differ in their size and accounting procedures etc. It makes comparison of ratios difficult and misleading.

## 3.6 PAST SEMESTER QUESTIONS:

### QUESTION 1 [JUNE 2018]

The following is the financial statement for Berkat Aina Sdn Bhd.

BERKAT AINA SDN BHD STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER 2016	
Sales	2 600 000
(-) Cost of goods sold	(900 000)
Gross Profit	1 700 000
(-) Operation cost	(400 000)
Earnings before interest and tax	1 300 000
(-) Interest expenses	(30 000)
Earning before tax	1 270 000
(-) Tax	(381 000)
Net profit	889 000



BERKAT AINA SDN BHD  
BALACE SHEET AS AT 31 DECEMBER 2016

ASSETS	
Cash	170 000
Account Receivable	400 000
Inventory	600 000
Non-current assets	2 500 000
<b>TOTAL ASSETS</b>	<b>3 670 000</b>
LIABILITIES AND EQUITIES	
Account payable	300 000
Notes payable	200 000
Long term liabilities	400 000
Total liabilities	900 000
Ordinary share @ 250000 units	2 000 000
Retained earning	770 000
<b>TOTAL LIABILITIES AND EQUITIES</b>	<b>3 670 000</b>

---

Assuming 360 days per year

Based on the above information, calculate:

- i. Current ratio (3 marks)
- ii. Average collection period (3 marks)
- iii. Debt ratio (3 marks)
- iv. Net profit margin (3 marks)
- v. Return on equity (3 marks)

### **QUESTION 2 [DISEMBER 2017]**

(i) There are 4 main categories of financial ratio. List THREE (3) of them. (3 marks)

(ii) State TWO (2) external parties that have interest on the result of financial statement analysis (2 marks)

b. Financial ratio analysis is used to summarize information in a company's financial statements in assessing its financial health. Determine FIVE (5) main purposes of financial ratio. (5 marks)

c. Marzita Sdn Bhd has the following Statement of Comprehensive Income and Statement of Financial Position ended 31 December 2017.

---

Marzita Sdn Bhd

Statement of Comprehensive Income for the year ended 31 December 2017.

	RM
Sales	520 000
Cost of goods sold	<u>(190 000)</u>
Gross Profit	330 000
Operating Expenses	(75 000)
Depreciation	<u>(21 000)</u>
Earnings before interest and taxes	234 000
Interest	<u>(10 000)</u>
Earnings before tax	224 000
Tax	<u>(14 500)</u>
Net Income	<u><u>209 500</u></u>

---

Marzita Sdn Bhd  
Statement of Financial Position as at 31 December 2017.

	RM
Non-Current Asset	
Land	54 900
Building	124 000
Current Asset	
Cash	2 000
Account Receivable	33 000
Inventory	91 000
	<u>304 900</u>
Owner Equity	
Common Stock	64 000
Retained Earnings	54 100
Current Liabilities	
Account payable	45 000
Notes Payable	95 000
Non-current liabilities	
Long term debt	46 800
	<u>304 900</u>

Industry Average

Current ratio	1.8x
Quick ratio	0.7x
Average collection period	37 days
Inventory turnover	2.5x
Debt ratio	58%
Time interest earned ratio	23.1x
Gross profit margin	38%
Net profit margin	35%

Assuming a year with 360 days, calculate the above ratio for Marzita Sdn Bhd.  
(15 marks)

### QUESTION 3 [JUNE 2017]

- a. (i) State TWO (2) types of financial statements. (2 marks)  
(ii) List THREE (3) purposes of computing financial ratio. (3 marks)
- b. The data below represents two finance companies in Malaysia known as DaeHan and MinGook. The table below shows the Income Statement and Statement of Financial Positions for the two companies.

	DaeHan	MinGook
Sales	2 500 000	(iv)
Net Income	50 000	60 000
Total Assets	250 000	(v)
Total Assets Turnover	(i)	(vi)
Net Profit Margin	(ii)	6.5%
Return on Assets	(iii)	2.5%

Complete the data for those three companies by filling in the blanks for (i), (ii), (iii), (iv), (v) and (vi) with appropriate values. (15 marks)

c. From the data in (b), which company has the BEST financial performance? Provide TWO (2) reasons for your answer. (5 marks)

#### QUESTION 4 [DISEMBER 2016]

a. Briefly discuss TWO (2) importance of financial ratios to outsiders. (5 marks)

b. You are the financial controller of KEJAYAAN Co. The company is in the process of applying a term loan from a major bank in Kuala Lumpur. The followings are the financial statements for KEJAYAAN Co. for the year 2016.

KEJAYAAN Co.	
Statement of Profit or Loss and Other Comprehensive Income For the Year ended 31 December 2016	
Net sales	RM2 750 000
Less: Cost of goods sold	RM2 029 500
Gross Profit	RM 720 500
Less: Operating expenses	
Selling	RM 275 000
General expenses	RM 316 800
Total operating expenses	RM 591 800
Earning Before Interest & Taxes	RM 128 700
Interest	RM 13 200
Taxes (50%)	RM 57 750
Earnings After Taxes	RM 57 750

KEJAYAAN Co.

Statement of Financial Position as at 31 December 2016

**Assets**

Cash	RM 220 000
Account receivables	RM 275 000
Inventories	RM 825 000
Total current asset	RM 1 320 000
Net non-current assets	RM 605 000
<b>Total Assets</b>	<b>RM 1 925 000</b>

**Liabilities and stockholders' equity**

Account payables	RM 165 000
Notes payable	RM 220 000
Other current liabilities	RM 110 000
<b>Total current liabilities</b>	<b>RM 495 000</b>
Non-current liability	RM 220 000
Shareholders' Equities	RM 1 210 000
<b>Total liabilities &amp; shareholder's Funds</b>	<b>RM 1 925 000</b>

---

The followings are the industry average ratio for the year 2016

Industry Ratios	Industry Average
Current Ratio	1.7 x
Quick Ratio	0.9 x
Debt Ratio	50 %
Time Interest Earned	6 x
Inventory Turnover	4 x
Average Collection Period	20 days
Total Assets Turnover	2 x
Net Profit Margin	1.5 x
Return On Asset	2.5 %
Return On Equity	3.5 %

As a financial controller, you are given the task of determining the company's last year performance.

i. Prepare an analysis of the company's performance by comparing with the industry average and indicate whether it is favourable (F) or unfavourable (UF) (15 marks)

c. Discuss TWO (2) limitations of using financial ratio to evaluate financial performance in company. (5 marks)



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### QUESTION 5 [JUNE 2016]

a. List any THREE (3) categories of financial ratios and TWO (2) main financial statements in evaluating financial ratios. (5 marks)

b. Anggerik Company has the following statement of the financial position ended December 31, 2014. Below are the information of Anggerik Company.

Anggerik Company  
Statement of Financial Position as at December 31, 2014

	RM		RM
Cash	<b>a</b>	Current Liabilities	<b>d</b>
Account Receivable	25 000	Long Term Debt	<b>e</b>
Inventory	<b>b</b>	Common Shares	37 500
Fixed Asset	<b>c</b>	Retained Earnings	<b>f</b>
Total Asset	200 000	Total liabilities and Equity	<b>g</b>

Ratios	Company Ratio	Industry Ratio
Current ratio	5.0	7
Return on Asset	14%	15%
Fixed Asset Turnover	7	4
Inventory Turnover	7	6
Net Profit Margin	5%	8%
Debt Ratio	20%	25%

---

You are required to:

- i. Complete the financial position of the firm by fill in the blanks for a, b, c, d, e, f and g with appropriate value. (16 marks)
- ii. Explain the financial performance of the firm according to profitability ratios and activity ratios. (4 marks)

---

# CHAPTER 4: WORKING CAPITAL MANAGEMENT (CLO 1, LD 1), (CLO 3, LD 6)

## LEARNING OBJECTIVES:

- Explain the working capital policy and management
- ☐ Describe the concept of working capital
- a. Net working capital
- b. The components of working capital
- ☐ Determine the working capital management of current asset and current liability
- ☐ Explain the risk-return trade-off involved in managing net working capital
- ☐ Identify the suitable working capital standard concept of:
  - a. Hedging
  - b. Conservative
  - c. Aggressive
- Explain the cash management and marketable securities
- ☐ Describe various cash management objectives and decisions
- ☐ Describe the different mechanisms for managing the firm's cash collection and disbursement procedures
- ☐ Differentiate the types of marketable securities and the investment in marketable securities
- ☐ Explain the way to improve the efficiency in cash management and to match the cost and benefit in financial management
- Explain receivables management
- ☐ Define the receivables management concept and the credit policy in business
- ☐ Calculate the effective cost suffered by the business as the consequences of giving credit
- ☐ Calculate the cost of changing the credit policy and the effect on the credit customer
- ☐ Discuss the determinants of a firm's investment in accounts receivables and how changes in credit policy are determined
- Define the inventory management
- ☐ State the concept of inventory
- ☐ Determine the importance of inventory control
- ☐ Calculate the costs related to inventory:
  - a. Storage
  - b. Inventory order
  - c. Economic Order Quantity (EOQ)
  - d. Reorder Level
  - e. Average Inventory

---

## 4.1 POLICY & WORKING CAPITAL MANAGEMENT AND SECURITY

### **General objectives:**

Knowing the concept of working capital, net working capital and working capital components. Learn about working capital management, managing current assets and current liabilities and the effects on risk and return. Knowing the appropriate level of working capital that is 'hedging', the conservative and aggressive.

### **Specific Objectives:**

At the end of this unit, student should be able to:

- Explain the concept of working capital and net working capital and working capital components.
- Describe working capital management, managing current assets and current liabilities
- Explain the impact of risk and return in the context of working capital management.
- Describe the appropriate working capital levels, hedging, conservative and aggressive.

### **Introductions**

- A simple definition of working capital which is: “Current assets less current liabilities” (Stutely, 2003).
- A bit more clarification is brought by Higson who mentions inventory, payables, receivables, cash and short-term investments as working capital (Higson, 2012).
- Working capital management focused on the components that will determine the liquidity of the company's current assets and current liabilities.
- Working capital management has centered on two main things to determine the appropriate investment of current assets and to identify financial resources to finance current assets which were in need.

### **The concept of working capital and net working capital and working capital components.**

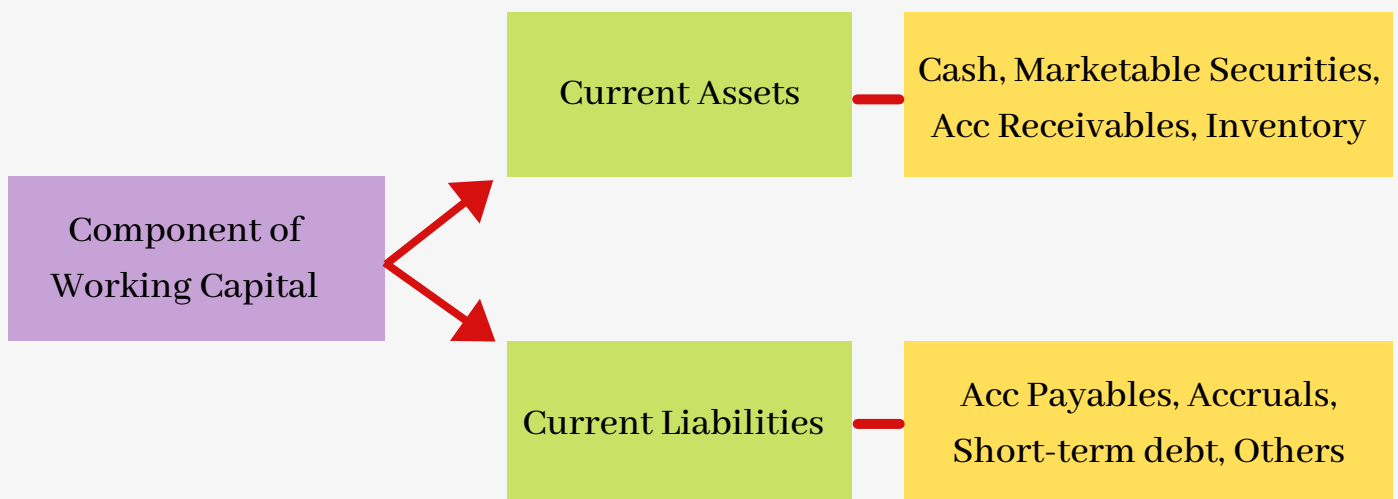
- Working capital management deals with the two components of the company's current assets and current liabilities.
- Current liabilities include in working capital because it is the main source used to finance current assets.
- The difference between current assets and current liabilities is called net working capital (net working capital) are:

---

$$\text{Net working capital} = \text{Current Assets} - \text{Current Liabilities}$$

- Positive net working capital shows that there is a surplus of current assets over current liabilities. This shows part of the assets financed with long-term financing.

### **The concept of working capital and net working capital and working capital components.**



#### **Current Assets**

- Current assets include the company's assets that are expected to be converted into cash in the period not exceeding one year.
- Cash - is the most liquid assets because it is in the form of money. Time deposits as well as cash because it is stored in the bank and can be changed at any time.
- The marketable securities - are short-term investments with excess cash that exist while for shorter periods. It can be marketed at any time and as this is the closest asset to cash.
- Accounts receivable - are present due to the availability of credit sales in the accounts of a business. When a company providing credit facilities to customers in fact it makes investments in accounts receivable. When customers pay the accounts receivable payments converted to cash.

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- Inventories - are the things that have not been sold or are awaiting the delivery to the customer. When selling goods on credit to exist then there is accounts receivable, but if it is sold for cash it will generate cash inflows to the company.

### Current Liabilities

- Current liabilities are short-term obligations of the company is to be completed within no more than a year. Components of short-term liabilities are
  - Accounts payable - When companies get supplies on credit, accounts payable exist within the company. The credit period granted by the supplier not more than a year.
  - Accruals - are liabilities of the company was formed from the existence of differences in cash flow should occur during the time of the actual cash flow. For example, employees should get paid at the end of the month is not paid salaries by the employer.
  - Apart from the accounts payable and accruals, the company can obtain loans through financial institutions in the form of loans or overdrafts.

### **Working capital management, managing current assets and current liabilities and the impact on risk and return**

- Working capital is the main component needed in the daily business of the company's business.
- Current assets and current liabilities should be managed effectively to ensure the continuity of life.
- Changes in working capital from time to time to make more dynamic management of working capital. For example, changes in sales volume the company will have an impact on working capital.
- The importance of working capital management more significant for small and medium companies, especially in terms of funding.
- This is because the company depends more on suppliers to obtain trade credit and loans from banks.
- This is why current liabilities should be properly supervised because of the failure of the management responsibilities of credit will affect the good name of the company and will affect the company's ability to obtain financing in the future.

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**Here are calculations for:**

(I) manage the company's investment in current assets and the impact on liquidity and profitability of the company.

	ABC Company (RM)	DEF Company (RM)
Cash	1000	1000
Marketable Securities	-	10,000
Receivable Accounts	19,000	19,000
Inventories	30,000	30,000
Total Current Assets	50,000	60,000
Fixed Assets	100,000	100,000
Total Assets	150,000	160,000
Current Liabilities	20,000	20,000
Long Term Debt	30,000	30,000
Common Equities	100,000	100,000
Total Liabilities And Owner Equities	150,000	160,000
Net income	15,000	15,300

\* In that year DEF Company make investments in marketable securities to obtain the rate of return of 6% or RM600.00. The tax rate is 50% and the company received proceeds from the investment of RM300.00.

The effect of investment in current assets on the level of liquidity and profitability of the company.

ABC COMPANY	DEF COMPANY
Current Ratio = Current Assets Current Liabilities = 50,000/20,000 = 2.5 times	Current Ratio = Current Assets Current Liabilities = 60,000/20,000 = 3 times
Net working capital = Current Assets - Current Liabilities = 50,000 – 20,000 = 30,000	Net working capital = Current Assets – Current Liabilities = 60,000 – 20,000 = 40,000
Return on Assets = Net income / Total Assets = 15,000/150,000 = 10%	Return on Assets = net income / Total Assets = 15,300/160,000 = 9.6%

## Conclusion

The effect of working capital on the risk and return the company is referring to the liquidity of an asset to the company. Company that have more fixed assets than current assets are not liquid. Cause of low liquidity in the high-risk conditions. This is because companies are less able to convert assets into cash when it need. For the company have more assets when compared to fixed assets, liquidity of the company at high levels and therefore low risk.

When comparison is made based on the returns, the asset while giving a lower rate of return than fixed assets. For example, cash in hand will not produce any return. If used for investments in fixed assets that involve a prolonged period, the returns may be higher. In conclusion the more liquid an asset, the lower the returns obtained from the asset.



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Here are calculations for:

(I) manage the company's investment in current assets and the impact on liquidity and profitability of the company.

Balance Sheet as at December 31, 2018

The effect of investment on the level of liquid assets and profitability of the company

	Kelana Company (RM)	Kelisa Company (RM)
Total Current Assets	60,000	60,000
Net Fixed Assets	140,000	140,000
<b>Total Assets</b>	<b>200,000</b>	<b>200,000</b>
Accounts payable	20,000	20,000
Note Payable	-	40,000
Current Liabilities	20,000	60,000
Long Term Liabilities (10%)	40,000	-
Common Equities	140,000	140,000
<b>Total Liabilities And Owner Equities</b>	<b>200,000</b>	<b>200,000</b>
<b>Net income</b>	<b>15,000</b>	<b>15,300</b>

In that year Kelisa Company make investments in marketable securities to obtain the rate of return of 6% or RM600.00. The tax rate is 50% and the company received proceeds from the investment of RM300.00.

---

Here are calculations for:

(I) manage the company's investment in current assets and the impact on liquidity and profitability of the company.

Income Statement for the year ended December 31, 2018

The effect of the use of current liabilities and long-term liabilities of the company's liquidity and profitability

	Kelana Company (RM)	Kelisa Company (RM)
Net operating income	44,000	44,000
(-) Interest expense	4,000 *	900 **
Earnings before taxes	40,000	43,100
(-) Of 50%	20,000	21,550
Net income	20,000	21,550

\* Company Kelana pay interest for a year to RM40, 000 long-term liabilities at a rate of 10%.

$$\text{Interest expense} = .10 \times \text{RM}40,000 = \text{RM}4,000$$

\*\* Company Kelisa pay interest on RM 40,000 for a month and RM20, 000 for four months at a rate of 9% in one year.

$$\text{Interest expense} = \text{RM}40,000 \times .09 \times \frac{1}{2} + \text{RM}20,000 \times .09 \times \frac{4}{12} = \text{RM}300 + \text{RM}600 = \text{RM}900$$

The effect of investment in current assets on the level of liquidity and profitability of the company

KELANA COMPANY	KELISA COMPANY
$\begin{aligned}\text{Current Ratio} &= \text{Current Assets} / \text{Current Liabilities} \\ &= 60,000 / 20,000 \\ &= 3 \text{ times}\end{aligned}$	$\begin{aligned}\text{Current Ratio} &= \text{Current Assets} / \text{Current Liabilities} \\ &= 60,000 / 60,000 \\ &= 1 \text{ times}\end{aligned}$
$\begin{aligned}\text{Net working capital} &= \text{Current Assets} - \text{Current Liabilities} \\ &= 50,000 - 20,000 \\ &= 40,000\end{aligned}$	$\begin{aligned}\text{Net working capital} &= \text{Current Assets} - \text{Current Liabilities} \\ &= 60,000 - 60,000 \\ &= 0\end{aligned}$
$\begin{aligned}\text{Return on Assets} &= \text{net income} / \text{Total Assets} \\ &= 20,000 / 200,000 \\ &= 10\%\end{aligned}$	$\begin{aligned}\text{Return on Assets} &= \text{net income} / \text{Total Assets} \\ &= 21,550 / 200,000 \\ &= 10.8\%\end{aligned}$

## Conclusion

Kelana Company that uses long-term loans to obtain liquidity and net working capital than the Company Kelisa. Reciprocal effects (tradeoff) of the situations above, the Company Kelana a return on total assets is lower than the Company Kelisa. Company Kelisa that use short-term loans bear the risk of liquidity and low net working capital, while a return on total assets is high.

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## 4.1.1 HEDGING PRINCIPLE

The hedging principle provides a guide to the maintenance of a level of liquidity sufficient for the firm to meet its maturing obligations on time. The hedging principle involves matching the cash flow generating characteristics of an asset with the maturity of the source of financing used to finance its acquisition.

For example, a seasonal expansion in inventories, according to the hedging principle, should be financed with a short-term loan or current liability. The rationale underlying the rule is straightforward. Funds are needed for a limited period and when that time has passed, the cash needed to repay the loan will be generated by the sale of the extra inventory items. Obtaining the needed funds from a long-term source (longer than 1 year) would mean that the firm would still have the funds after the inventories they helped finance had been sold. In this case, the firm would have excess liquidity, which it either holds in cash or invests in low-yield marketable securities until the seasonal increase in inventories occurs again and the funds are needed. The result of all this would be an overall lowering of firm profits.

The rule of the HEDGING PRINCIPLE:

*Permanent asset investments are financed with permanent sources, and temporary investments are financed with temporary sources.*

## 4.1.2 WORKING CAPITAL MANAGEMENT POLICY

There are three basic policies that a company can adopt:

### 1. Aggressive Approach

All the current assets and part of its permanent assets are financed by current liabilities. As a result, the net working capital decreases. The firm faces interest risk and low liquidity but these are offset by the low-cost of financing. This approach will result in higher return and higher risk.

---

## **2. Moderate Approach / Hedging Approach**

This approach or policy is a moderate policy that matches assets and liabilities to maturities. Temporary current assets that are only going to be on the balance sheet for a short term should be financed by current liabilities; Permanent current assets and long term fixed assets that are going to be on the balance sheet for a long time should be financed by the long term debt and equity. This approach will result in moderate risk and return.

- Simple illustration:
- A fixed asset/equipment which is expected to provide cash flow for 8 years should be financed by say 8 years long-term debts
- Assuming a firm needs to have additional inventories for 2 months, it will then sought short term 2 months bank credit to match it.

## **3. Conservative Approach**

All the permanent current assets and most of the temporary current assets are being financed by long term debt or equity. As a result, the net working capital increases. This puts the firm under a very safe condition because the firm has no problem in meeting its short term obligation. But, it is exposed to high cost of long term financing and high liquidity. This approach will result in lower return and lower risk.

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## Level of Working Capital - Hedging, Conservative and Aggressive

There are three different approaches in the application of the principle:

### Hedging

This approach or policy is a moderate policy that matches assets and liabilities to maturities. Temporary current assets that are only going to be on the balance sheet for a short term should be financed by current liabilities; Permanent current assets and long term fixed assets that are going to be on the balance sheet for a long time should be financed by the long term debt and equity.

This approach will result in moderate risk and return.

### Aggressive

All the current assets and part of its permanent assets are financed by current liabilities. As a result, the net working capital decreases. The firm faces interest risk and low liquidity but these are offset by the low-cost of financing. This approach will result in higher return and higher risk.

### Conservative

All the permanent current assets and most of the temporary current assets are being financed by long term debt or equity. As a result, the net working capital increases. This puts the firm under a very safe condition because the firm has no problem in meeting its short term obligation. But, it is exposed to high cost of long term financing and high liquidity. This approach will result in lower return and lower risk.

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## 4.1.3 PAST SEMESTER QUESTIONS

### QUESTION 1 [JUNE 2018]

Identify the concept of working capital (5 marks)

### QUESTION 2 [JUNE 2015]

Below are the financial information from ADIB MARKETING COMPANY for the year of 2013.

Average selling price	RM40
Sales (units)	2 500
Interest expenses	RM950
Variable cost (% from sales)	65%
Fixed cost	RM10 000
Dividend of preferred share	RM1 000
Ordinary share (units)	5 000

As a financial executive, you are required to prepare an income statement (up to earning per share) for the company. Assume that the company is taxed at 30%. (13 marks)

### QUESTION 3 [JUNE 2011]

There are 3 approaches in hedging principle chose by SYARIKAT INTAN

Type of policies	Short term debt (RM)	Long term debt (RM)
Conservative	150 000	350 000
Hedging	300 000	200 000
Aggressive	525 000	0

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### Additional information

Total assets	RM900 000
Current assets	30% on total asset
Accrued expenses	RM100 000
EBIT	RM120 000
Taxes	28%
Cost of short term debt	5%
Cost of long term debt	9%
Ordinary shares	20 000 units

Required:

a. Construct the Income statement and balance sheet for the company. (15 marks)

b. Calculate:

i. Earnings per share (EPS) (3.5 marks)

ii. Return on equity (3.5 marks)

iii. Current liabilities ratio to total capital cost (3 marks)



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## 4.2 CASH MANAGEMENT

### **CASH MANAGEMENT AND MARKETABLE SECURITIES**

Cash is paper money or coins held by individuals or companies, whether in storage, in the form of checks, held or in company accounts.

While the marketable securities are investments are beneficial money market securities that can be used by companies to obtain a temporary return on idle funds.

### **The objectives and functions of Cash Management**

Provide storage level of cash balances and marketable securities that can contribute to improving the value of the company. If the level of cash or marketable securities of a company is too high, the profitability of the company will be reduced. At the same time, companies should not be saving too little cash and marketable securities in order to avoid possible losses. Two main objectives and functions of cash management are:

- Company should have sufficient cash to meet the needs of business.
- The company should not have to keep too much cash instead invest that cash balances are not in use is minimal.

### **Methods of cash collection and payment**

#### **Method of cash collection**

There are various methods of cash collection. Among them is the cash collection in accordance with the normal system. Common system is one method used to clear checks. The following are the cash collection procedures through the normal system:

- (i) Customer to write and put a cheque in the mailbox.
- (ii) A letter or cheque sent to the company's headquarters.
- (iii) Cheque are processed and deposited in a bank company.
- (iv) The fund or funds have been included in the company bank account.
- (v) Cheques sent to the clearing house (clearing system) to be cheques and cleared.

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(vi) The Bank will send a notice to the company, a receipt stating the check had cleared and the money or funds may be used.

There are various methods that can be used to accelerate cash inflow methods can be used for this purpose is the lockers and the PAC payments system (preauthorized cheques).

### **(a) Lock Box System**

Lock box system is a service that is often used to speed up cash collection. This service is offered by commercial banks. The objective is to reduce both types of mail float and processing float.

Collection program used is very simple. Companies will rent a mailbox at the post office and to authorize a bank (where the company has an account) to post-delivery letter from the mail box. Here is the procedure through the lock box:

- (i) Direct customers to order a check to the mailbox with this number (not to head office / branch office of the company).
- (ii) The Bank took the letter from the mailbox and deposit checks directly into the accounts of the company.
- (iii) The Bank shall inform the company of the amount deposited into your bank account every day. The company will receive a copy of the deposit and payment list, together with any letter accompanying the payment. States that receive checks from all over the country will have some lockers.

The system has several advantages lockers. The system is able to:

- Increase the cash that can be used by the company.
- Elimination of clerical functions, then a better audit control is also achieved because the employees do not accept cheque.
- Company can determine more quickly to the bounce cheques (cheques will be returned by the bank to the company).

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### **(b) PAC Payment System (Preauthorized cheque)**

In the PAC system, the amount and payment date has been set in advance. Upon arrival date, the amount will automatically be deducted from the bank customer accounts in the account of the recipient.

This system is different from the normal cheques system where it does not contain or require the individual signature of the account owner. This system exists when the individual gives his powers. This system is used when the company received payment from the same customers.

Cash collection procedures through a system of payments PAC are:

- (i) Customer empowers the companies to write cheques for them on their own account.
- (ii) The guarantee agreement signed by the client and forwarded to the respective banks. This agreement empowers the bank to pay when the PAC is presented for payment.
- (iii) The Company to provide details of the payment information
- (iv) The Bank will receive information from the company, issued a PAC, deposit the checks into company accounts and advance checks to clear through the commercial banking system.

PAC payment system has several advantages. The system is able to:

- Increase in cash flow projections as the company begins the process of cash collection
- Customers will no longer be interrupted by periodic payments, all done for him by the bank.
- Increase the cash that can be used by companies for mail float and processing float has been reduced compared to other systems.

---

## **The method of the Cash Payment.**

There are various methods used for cash payments. The methods used are zero-balance accounts (zero balance accounts) and payments through the draft.

### **(a) Zero Balance Account**

This method allows the control centre (headquarters) of all cash payments, but at the same time, the power remaining with the company's branch level. This method can provide better control over cash payments.

Here is the procedure of cash payments through the account zero balance:

- (i) Employees authorized the company to write checks as usual.
- (ii) Cheques will be through the banking system and forwarded to the central bank to issue payment.
- (iii) Cheques paid by banks and negative balances will be shown in the accounts concerned.
- (iv) At the central bank the same amount will be reduced from the central account which is the primary deposit account.

Zero balance account system has several advantages. The system is able to:

- o Make a central control for all payments.
- o The time spent for cash management activities that are not essential can be reduced.
- o balances the excess cash in the accounts could be reduced.
- o An increase in the floating payments.

### **(b) Payment by Draft**

Payment by draft is similar to regular checks. But it is not paid by the bank. The draft was written and authorized to be made by the company charges from his account. The Bank is a collection and submits a draft of it to companies for review and approval of payment. Any draft that did not want to be charged by the company will be returned to the bank the next morning. All drafts are returned to the bank will be paid. The main objective of this system is to provide effective control of costs as directed by the headquarters ordered to stop payment on any draft considered less suitable. Payment for each draft made after review and approval by the company.

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## **Types of Securities Markets and Investments in Securities Market**

Marketable securities are investments that are not at risk and can be exchanged by the company to cash in the short term. There are several types of marketable securities such as treasury bills, bankers' acceptances, negotiable certificates of deposit, repurchase agreements and commercial paper.

### **Types of marketable securities:**

#### **(a) Treasury Bills**

It is one of the short-term lending instruments used by the government that promises the payment of a sum and carry it after a certain period. In Malaysia, treasury bills issued by Bank Negara Malaysia on behalf of the government. It is sold at a discount (less than face value). Bank as the issuer will take it up again when the bill was due (usually maturities between three months to one year) and will pay to the holder or carry it at face value. Example: Treasury bills with a face value of RM 1000 priced at RM 920 and has a maturity of one year. This means that you can buy today at RM 920 and after a year of this bill can be redeemed with a price of RM 1000. Benefits you get is RM 80.

#### **(b) Bankers' acceptances**

It is a short-term funding facility given to the operators' import and export industry. It is aimed at launching international commercial transactions. "Acceptance" exists when the bank receives trade agreements to pay. Bankers' bank customers use to finance the transaction by providing security to the supplier in exchange for goods or services. Suppliers, who receive these securities, hold securities to maturity and redeemed at the bank or sell their payment before the expiry of the maturity date at a discount to others. These securities are obligations between two parties, a bank customer and bank.

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### **(c) Negotiable Instruments of Deposit (NCD)**

Negotiable certificates of deposit is a time deposit issued by commercial banks and merchant banks are allowed, verify that the sum has been kept as deposits with the bank for a certain period with the prescribed rate. It's like a fixed deposit but the difference is that it can be traded and ownership can be transferred. Name of the depositor is not specified in the certificate and the issuing bank will guarantee payment of principal with interest to carry it on the maturity date of this certificate. Each bank that issues these certificates are free to set their interest rates.

### **(d) Repurchase Agreements (REPO)**

It is the most important source of funds for commercial banks. This Agreement is an agreement involving the sale of securities or financial assets to guarantee to buy them back at the end of the period promised a pre-determined price. This Agreement is for a short term period like overnight, 7 days or several months. This agreement involves borrowers who need funds in short-term investors who have surplus funds to lend. In this transaction, usually the bank as a borrower will establish an agreement with its clients to sell a security with consent to repurchase at a period of higher prices, including interest that has been predetermined.

### **(e) Commercial Paper**

It is a promissory note usually issued by the large company, already proven their credit standing. It is a short-term lending instruments of the company where maturities between 1 to 270 days or 6 months. It has a face value and sold at a discount. Companies that issue these securities often have loans with the bank to facilitate the redemption by the holder when the maturity date.

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## **Investments in marketable securities**

Before making an investment in marketable securities, the company must first select the portfolio of marketable securities that will bring good returns to the company. Company should consider the following before investing:

- **Financial Risk**

It involves the inaccuracies of the estimated rate of return on invested securities. Typically, the manager does not seek financial risk of high marketable securities when choosing certain assets to be included in their investment portfolios.

- **Risk-benefit**

It involves the estimated rate of return of inaccuracies caused by changes in interest rates due to imbalance in the environment.

- **Liquidity**

Companies need to know whether the securities proposed to meet the needs of the company to be at a certain level of liquidity when a company needs it.

- **Tax**

Companies need to know the types of marketable securities that is taxed.

- **Return**

Returns estimated by the company that can bring results when firms make investments in securities. Return involves measuring the risks and benefits to be derived when companies invest in these securities.

## **WAYS TO INCREASE EFFICIENCY IN CASH MANAGEMENT AND MATCHING COSTS AND BENEFITS OF FINANCIAL MANAGEMENT**

In cash management, company will find the amount of money in the cheque book may differ from the amount of money the bank thinks company have. This is because some cheque written has not yet brought to the bank to explain. This situation also occurs in the business. Cash balances shown in the books of the company referred to the balance of the ledger with the balance shown in your bank account is the amount available to be spent on call the remaining available balance or collection. The difference between ledger balance and the balance available on call "apungan" (float). This reflects the net effect of floating cheque in the banking system (clearing). Efficiency in cash management can be

improved by accelerating the collection through the lockers.

In the process of accelerating the collection through the lockers, there is one or more components of the reduction in "float" will be involved. Delaying the payment involves an increase in any one component of "float".

## Types of Floating

There are four types of float:

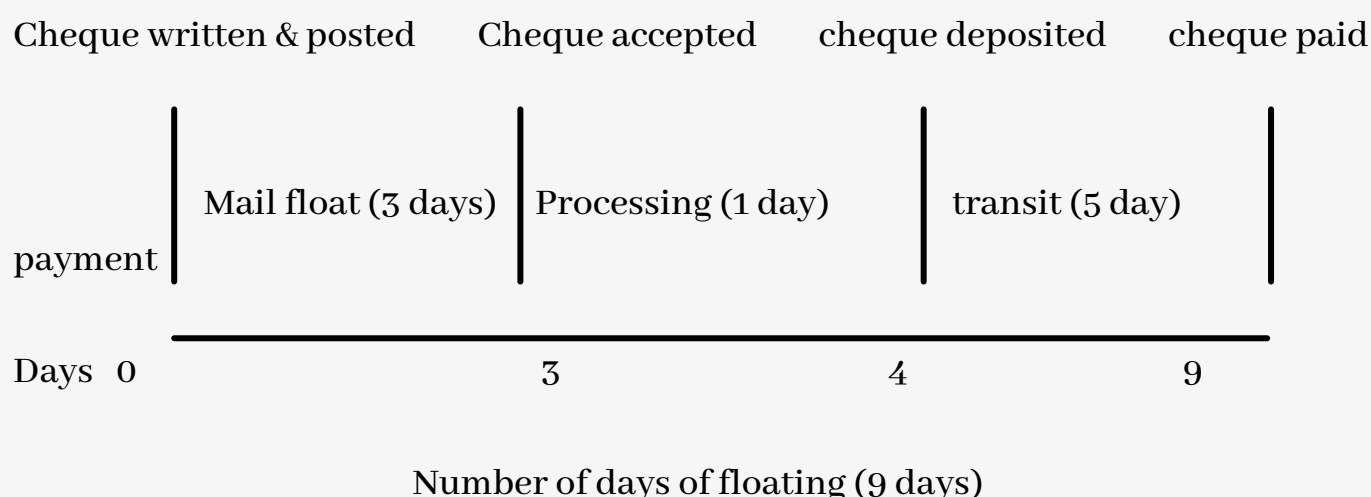
(a) Floating mail (precautionary) is the time between the first clients sending a cheque until the cheque came into the hands of the recipient.

(b) Floating processing (processing float) is the time taken by the recipient from the day he received the check, process check until the check is deposited in the bank.

(c) Floating transit (transit float) is the time taken between the first cheques deposited by the recipient to pass through the banking clearing process until there are funds that can be used by the company. This float is because of the check to the bank system before a cheque can be cleared.

(d) Floating payments (disbursement float) refers to funds that customers have in the bank account until the cheque fees the company through the banking system.

Table 4.1





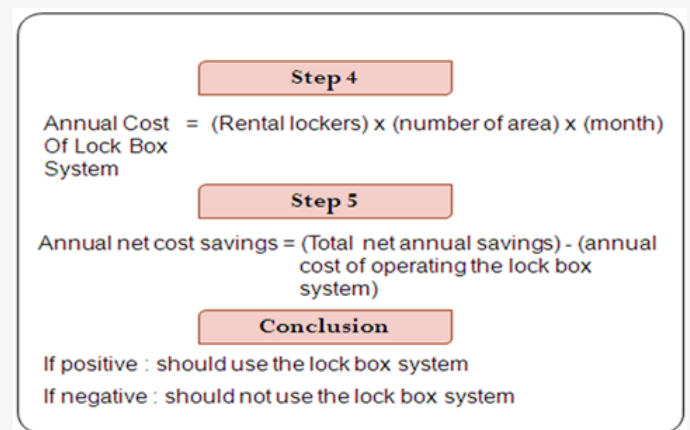
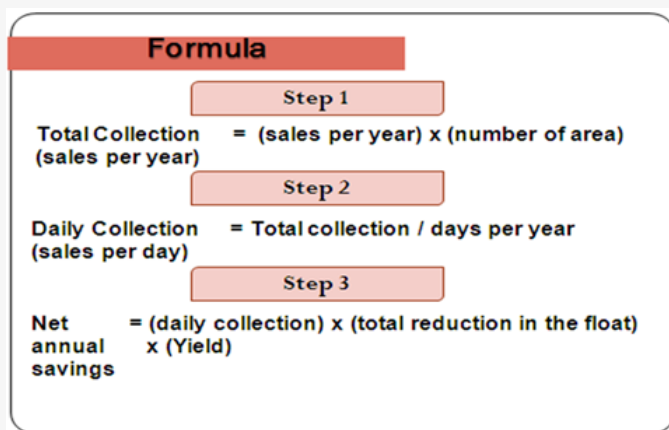
## Matching Costs and Interest of Cash Management.

Effective cash management is concerned with matching of costs and benefits involved in a cash management. There are various measures used to match the costs and benefits. Method of calculation refers to the example below:

Example:

Kita Company is a manufacturer of aluminium used for various purposes of making car components. All components of the production are delivered by ship to the 10 districts of sales. Kita Company has completed a study on the cash collection system that will enhance the company's cash management. Companies say it can reduce the amount of float of 2.5 days if the company uses a system of lockers in each sales territory.

If companies use the lockers, the company will pay rent of RM 300.00 per month on all the lockers. Any additional fees will be included in marketable securities firms that will provide a return of 10.5% per annum. An average annual sale (revenue) is RM 5475,000.00 for each sales region. In conducting its study, the company assumes that there are 365 days a year. Calculate the cost of the company's annual net savings. Does the company should use the system lockers?



Solution:

Step 1:

$$\begin{aligned}\text{Total proceeds (sales per year)} &= (\text{sales per year}) \times (\text{number of area}) \\ &= \text{RM } 5475.000 \times 10 \text{ area} \\ &= \text{RM } 54750000\end{aligned}$$

---

Step 2:

$$\begin{aligned}\text{Daily Collection (Sales Per Day)} &= \text{Total Collection} / \text{Days Per Year} \\ &= \text{RM } 54750000 / 365 \text{ Days} \\ &= \text{RM } 150,000\end{aligned}$$

When a company uses a system of lockers, it will reduce the float of 2.5 days. Value reduction in float is based on the rate of return of 10.5% per year.

Step 3:

$$\begin{aligned}\text{Net Annual Savings} &= (\text{Daily Collection}) \times (\text{Total Reduction In The Float}) \times (\text{Yield}) \\ &= \text{RM}150,000 \times 2.5 \text{ Days} \times 10.5\% \\ &= \text{RM } 39375.00\end{aligned}$$

Step 4:

The Annual Cost of

$$\begin{aligned}\text{Operations Lockers} &= (\text{Rental Lockers}) \times (\text{Number of Territories}) \times (\text{Months}) \\ \text{System} &= \text{RM } 300 \times 10 \times 12 \\ &= \text{RM } 36000\end{aligned}$$

Step 5:

$$\begin{aligned}\text{Annual Net} &= (\text{Total Net Annual Savings}) - (\text{Annual Cost Of Operating The} \\ &\text{System Lockers}) \\ \text{Cost Savings} &= \text{RM } 39,375 - \text{RM } 36,000 \\ &= \text{RM } 3375\end{aligned}$$

Conclusion: Kita Company should use the lockers because they get a saving of RM 3375 per year.

### Exercise Question

Exchange Company is well-known producer of cosmetic products. Product - the product is distributed to each stockist appointed in 11 states in Peninsular Malaysia. Average annual sales stood at RM3, 500,000 for each of these stockists. Currently the company has reviewed the cash collection system that will save the collection from 4 days to 1.5 days if you use the lockers in the stockist. Total rent for all lockers is RM2, 750.00 per month if the companies are using the system. Investment results are expected to give a return of 8.5% per annum. In the study, the company assumes 330 working days a year. Calculate the cost of the company's annual net savings. Does the company should use the system lockers?

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Answer:

i.  $3500,000 \times 11$

= RM 38,500,000

ii.  $38,500,000 / 330$

= 116666.67

iii.  $116666.67 \times 0.085 \times 2.5$

= 24791.67

iv.  $2750 \times 12$

= 33,000

v.  $24791.67 - 33,000$

= RM -8208.33

vi) The company should not use the system lockers

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## 4.3 RECEIVABLES MANAGEMENT

### INTRODUCTION

#### Ways of payment

- Cash
- Credit

Offers credit to customers so that they have a time to make a payment to company on due date.

#### **Many companies offer credit payments for:**

Provide facilities or the flexibility to repay their customers to the company within a certain time

The pressure of competition is a factor giving the credit to its customers

#### **Credit management is very important because:**

Strict control and collection of accounts receivables system efficiency could be increased profitability

Enhance the liquidity of the company.

### 4.3.1 THE CONCEPT OF RECEIVABLES AND CREDIT POLICIES

#### ☐ **Lending / Creditor**

- Delivery of goods or services to customers at present and by appointment and conditions of credit, the customer will pay on a specified future date.

#### ☐ **Debtors**

-Customers are given credit

#### ☐ **Accounts receivable exists when:**

- Credit is given to certain customers  
- Notes receivables are submitted by customers to the company is still regarded as withholding funds until payment is received.

#### ☐ **Accounts receivable benefit depending on the level of credit sales are conducted**

-The higher credit sales, the higher the company's assets are tied to accounts receivable

- The main factors affecting the level of investment account receivable
1. The percentage of credit sales to total sales
    - ✓ Ways of payment will describe the mixture of credit sales and cash sales
  2. The level of sales
    - ✓ The higher the sales the higher the account receivable
  3. Credit and collection policies
    - ✓ Includes condition of sales
    - ✓ Quality customers
    - ✓ Sales effort

### **Includes Condition of sale**

- Percentage discounts may be offered to encourage early payment.
- Certain period, known as the discount period.
- Total credit period granted to customers who qualify
- Credit terms are written in the form



a = % Discount  
b = the discount  
c = term loans

### **Quality of customers**

#### **Character**

- ❖ The commitment to meet credit obligation

#### **Capacity**

- ❖ The ability to meet credit obligation with current income

#### **Capital**

- The ability to meet credit obligation from existing assets if necessary

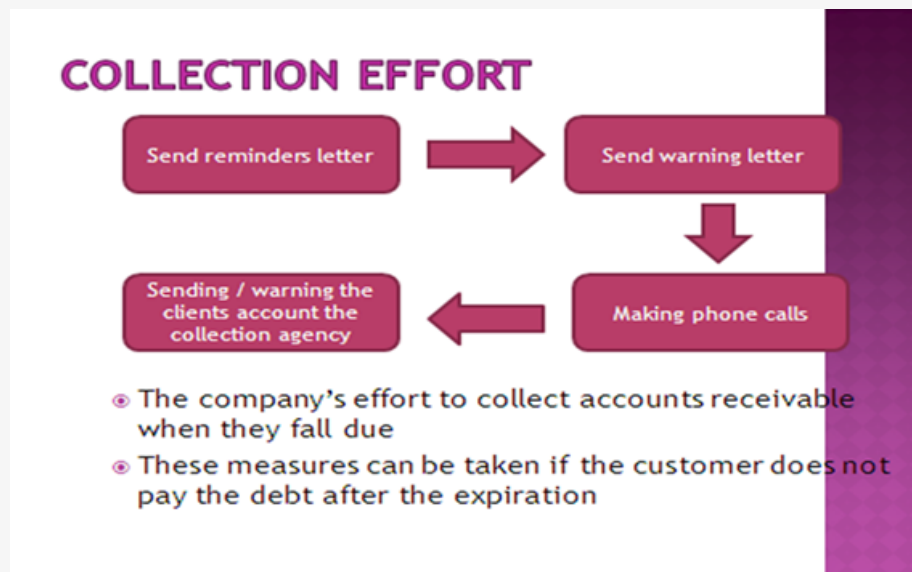
#### **Collateral**

- Refer to the security that underlies the finance

#### **Condition**

- Includes consideration of general and industry economic condition

Hermes (2012), a credit insurance company identify five characteristics, considering each can help finance manager to perform a credit assessment to determine the likelihood of default and potential financial loss .



### 4.3.2 CALCULATE THE EFFECTIVE COST SUFFERED BY THE BUSINESS AS THE CONSEQUENCES OF GIVING CREDIT.

- An incentive granted by company for customer to get the discount if they are doing early payment.
- Some customers of the company will take the discount offered and the others may use this free credit chance to get the more profitable opportunities and make payment when the end of the credit period.
- For the customers who missed the opportunity to get the discount and make payments at the end of the credit period, they have to bear the finance charges on the funds that borrowed.
- For example, 2/10 net 30, means that if the customer make the payment within 10 days, he will get the discount of 2% on the funds that borrowed. If he pay after the 10th days of the discount period, in between 30 days of the credit period, he has to pay the original amount of the funds.

$$\bullet \frac{a}{1-a} \times \frac{360}{c-b}$$

- Discount off the annual cost

Example: credit conditions 2/10 net 30

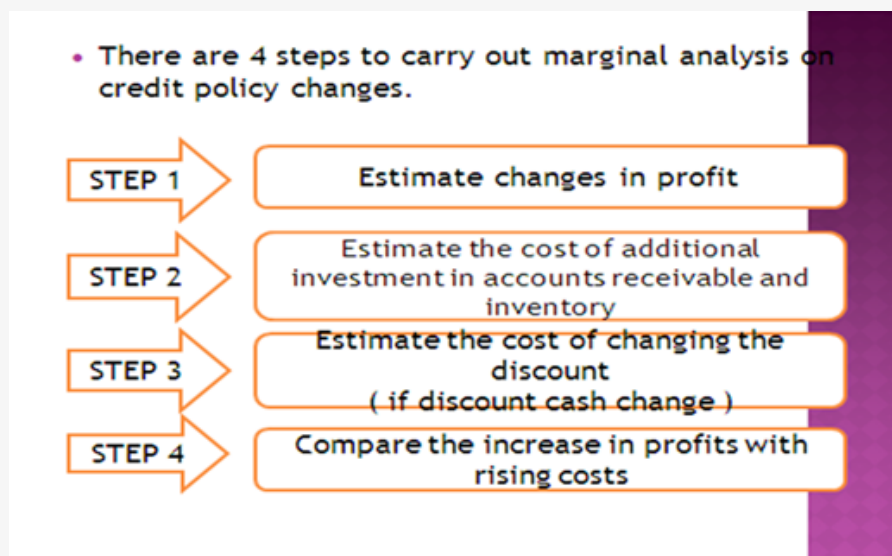
$$\frac{0.02}{1-0.02} \times \frac{360}{30-10}$$

$$= 0.3673 \text{ @ } 36.73\%$$

Conclusion: if the customer pays on day 30, the customer will bear the annual cost 36.73% as it requires an additional 20 days to make payment.

### 4.3.3 COST OF CREDIT POLICY CHANGES OVER THE EFFECT DEBTORS

- Changes in credit policy involves reciprocity between costs and benefits.
- When the relaxed credit policies, it will cause increasing in sales and profits.
- But the negative impact of an increase in bad debt and the additional funding tied to account receivable and inventory.
- Company should determine the suitable time and conditions for carry out the credit changes.
- When sales by the policy change is sufficient to generate additional profits until excess of the costs was the most suitable time and conditions.
- This method is called additive or marginal analysis.



## CALCULATE OF MARGINAL ANALYSIS

Step 1: Estimate changes in profit

$$\begin{aligned} & ( \text{Increased sales} \times \text{Contribution Margin} ) - \\ & ( \text{Increased sales} \times \text{Bad debt on new sales} ) \end{aligned}$$

$$\begin{aligned} & ( \text{The difference in policy proposals} - \text{Current} ) \\ & \times ( 1 - \text{Variable Costs} ) - ( \text{Difference bad debt} ) \end{aligned}$$

Step 2 : Estimate the cost of additional investment in account receivable and inventory

$$( \text{Additional account receivable} + \text{Inventory extension} ) \times ( \text{Rate of return need before tax} )$$

Step 3 : Estimate the cost of changing the discount ( if discount cash change )

$$\begin{aligned} & ( \text{New sales level} ) \times ( \% \text{ new cash discount} ) \times ( \% \text{ taking a discount} ) \\ & - ( \text{Original sales level} ) \times ( \% \text{ original cash discount} ) \\ & \times ( \% \text{ taking original discount} ) \end{aligned}$$



Step 4 : Compare the increase in profits with rising costs

$$\text{Step 1} - (\text{Step 2} + \text{Step 3})$$

- Exercise

- Company Annie is considering changes to the policy of credit from 2/10 net 30 to 3/10 net 60 in an effort to increase company sales.
- Assumption: The cost of change is 70% and the before tax rate of return should be about 15%.
- Do changes in credit policy should be implemented or not the proposed.

Current policy (2/10 net 30)	Proposed policy (3/10 net 60)
Credit sales to RM 200,000	Credit sales are expected to RM 1,000,000
40% of customers take the discount	6% of customers take the discount
35% pay on Day 30	25% pay on Day 60
25% pay on Day 40	10% pay on Day 70
Bad debts of RM 500,000	Bad debts of RM 650,000
Inventory levels of Rm 1,000,000	Inventory Levels of Rm 2,500,000

---

### Step 1

(The difference in policy proposals – Current) x (1- Variable Costs) – (Difference bad debt)

$$= (1,000,000 - 200,000) \times (1 - 0.7) - (650,000 - 500,000)$$

$$= (800,000 \times 0.3) - 150,000$$

$$= 240,000 - 150,000$$

$$= \text{RM } 90,000$$

### Step 2

i. First calculate the additional investment in the account receivable

Additional Acc. Receivable

$$= (\text{New level of daily sales}) \times (\text{The average new collection*}) - (\text{Original level of daily sales}) \times (\text{The average of original collection**})$$

\*The average new collection

$$= 0.65 (10 \text{ days}) + 0.25 (60) + 0.10 (70)$$

$$= 28.5 \text{ days}$$

\*\*The average original collection

$$= 0.40 (10 \text{ days}) + 0.35 (30) + 0.25 (40)$$

$$= 24.5 \text{ days}$$

So that:

Additional Acc. Receivable

$$= \left\{ \frac{1,000,000}{360} \right\} \times 28.5 - \left\{ \frac{200,000}{360} \right\} \times 24.5$$

$$= 79,166.67 - 13,611.11$$

$$= \text{RM } 65,555.56$$

---

i. Total additional investment and additional inventory account receivable

$$= 65,555.56 + 1,500,000$$

$$= \text{RM } 1,565,555.56$$

ii. Calculate the additional cost

$$= 1,565,555.56 \times 15\%$$

$$= \text{RM } 234,833.33$$

### **Step 3**

Estimate the cost of changing the discount (if discount cash change)

(New sales level) x (% new cash discount) x (% taking a discount) – (Original sales level) x (% original cash discount) x (% taking original discount)

$$= (1,000,000 \times 0.03 \times 0.65) - (200,000 \times 0.02 \times 0.4)$$

$$= 19,500 - 1,600$$

$$= \text{RM } 17,900$$

### **Step 4**

#### **Compare the increase in profits with rising costs**

Step 1 – (Step 2 + Step 3)

$$= 90,000 - (234,833.33 + 17,900)$$

$$= - \text{RM } 162,733.33$$

Conclusion: Based on marginal analysis has been done, the net change in profit before tax of - RM162, 733.33 which is not beneficial. Thus the change in credit policy as proposed should not be made.

---

## 4.4 INVENTORY MANAGEMENT

### 4.4.1 DESCRIBE THE CONCEPT OF INVENTORY

- **Inventories are current assets held by a company that used to generate sales.**
- Inventories take a long time to get released that sold for cash.
- When a company invests money in inventory then have less cash available to cover daily operating expenses.

#### **The Types of Inventory**

- Inventories of raw materials

Items that are brought in from outside and be a part of the final product.

The purpose is to avoid disruption of work due to manufacturing delays getting supplies of raw materials.

- Inventories of work in process

Item intermediate stage in the production process from raw materials to finished goods or final products.

The purpose is to prevent further manufacturing work disrupted.

- Inventories of finished goods

The final product has been available for sale to customers.

The purpose is to keep an inventory in preparation to face the demands of customer.

- Inventories supplies

Items used in business operation but not directly involved in producing the final product.

### 4.4.2 THE IMPORTANT OF INVENTORY CONTROL

- To help and to minimize costs and increase production.
- Companies need to know how much inventory should be ordered.
- Knowing when inventory should be ordered.
- Knowing the inventory may be appropriate for the production process.
- Managers also need to ensure that the costs involved which can be reduced or hedge, which is protected from increased costs in the future
- Balanced investment in inventory is necessary for companies to maximize return on its assets.

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## Inventory Management Techniques

- Effective inventory management is linked to the size of inventory invested by the company against him.
- For better control of inventory levels, some things to consider are:

Total use

Cost savers

Ordering cost

To determine the total number to be stored

The number to be ordered

Reorder level

## The Importance of Safety Stock

Acceptance of orders and demand for products

If they both can be determined by the company, the company only needs the security of stock in small amounts.

Costs due to the lack of inventory

If companies do not want to be in a situation where customer demand cannot be achieve, then the amount of safety stock kept by the company has to be improved to avoid losing sales.

The cost of carrying inventory

if the company had to pay the costs of bringing that very high, then the total safety stock should be reduced. With this reduction, the average inventory will be lower and inventory carrying costs will be reduced.

### 4.4.3 CALCULATE THE COSTS RELATED TO INVENTORY

Example:

Here is the information obtained from the Indah Company:

Requests each year = 75,000 units

Ordered Cost = RM 20 per order

Storage cost = RM 0.077 per unit per year

Inventory order size = 1000

---

Techniques of calculating the costs are follows:

i) The cost of

Inventory = (average inventory) (carrying cost per unit)

$$\text{Storage} = \left( \frac{Q}{2} \right) c$$

When

- Q = inventory order size in unit
- c = carrying cost per unit

Example

$$= \left( \frac{1000}{2} \right) 0.077$$
$$= \text{RM } 38.50$$

ii) The total cost of = (the number of times ordered ) ( cost per order )  
ordering

$$= \left( \frac{S}{Q} \right) O$$

When

- S = Total sales in units
- Q = Inventory order size in units
- O = Cost per order

\*Cost includes all costs in order to provide order. Delivering orders and related costs other.

Example :

$$= \left( \frac{75000}{1000} \right) 20$$

$$= \text{RM } 1500$$

---

iii ) Total inventory cost = carrying cost + ordering cost

$$= \left( \frac{Q}{2} \right) c + \left( \frac{s}{Q} \right) o$$

Total inventory cost held by the company to determine the level of company profits. The higher average inventory, the higher the value of investment and costs involved in storage.

Example :

$$= 38.50 + 1500$$

$$= \text{RM } 1538.50$$

Example :

CNI Company supply the camera units and requires 500,000 units a year of raw materials. The cost of storage is 20% of the purchase price. Each order will include the cost of RM 90.00. The purchase price of the material is RM 2.00 per unit. The management has decided to keep security stocks of 15,000 units.

Delivery period for each order is 7 days. Suppose the CNI Company to be operational 50 weeks per year.

$$EOQ = \sqrt{\frac{2(\text{Annual usage in units})(\text{Order cost})}{(\text{Annual carrying cost per unit})}}$$

iv) Model Equity of Economic =

$$= \frac{\sqrt{2(500000)(90)}}{0.40}$$

$$= \sqrt{225000000}$$

$$= 15000 \text{ unit}$$

---

❖ EOQ is subject to a number of assumption :

- The constant demand
- Sales expected to be uniform throughout the year
- Inventory orders will be received as expected and with immediate effect
- The cost carrying and ordering cost are constant

❖ How can companies overcome the shortage of inventory :

- Addressing the problem of lost sales when customer's demand not fulfilled as a result of running out of inventory.
- Fulfilled any needs / demands unexpected / if the late in receiving orders placed.

v) Point / level Reorder = Safety inventory + Requirements for the delivery

$$= \text{Safety inventory} + \frac{(\text{delivery period}) \times \text{Requirements (units)}}{\text{Day of the year}}$$

\* Create a new order if the inventory falls to this level.

Example :

$$= 15000 + \left[ \frac{7 \times 500000}{(50 \times 7)} \right]$$

$$= 15000 + 10000$$

$$= \mathbf{25000 \text{ unit}}$$



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$$\text{vi) Inventory Average} = \frac{\text{EOQ}}{2} + \text{safety inventory}$$

$$= \frac{15000}{2} + 15000$$

$$= \mathbf{22500 \text{ UNIT}}$$

$$\begin{aligned} \text{The Number of Annual Orders} &= \frac{\text{Annual requirements}}{\text{The number of each order( EOQ )}} \\ &= \frac{500000}{15000} \\ &= \mathbf{33 \text{ times}} \end{aligned}$$

Total inventory costs = the total cost of storage + total cost of order

$$= \left\{ \frac{Q}{2} + \text{safety stock} \right\} c + \left( \frac{s}{Q} \right) o$$

$$\begin{aligned} &\frac{15000}{2} + 15000 + 90 + \frac{500000}{15000} \\ &= \mathbf{48000} \end{aligned}$$

Results relating to inventory management involve reciprocity (tradeoff) of balancing between risks with returns.

- When the inventory level is low, the potential risk faced by the company is in terms of delay that would cause the supply of producers by up to customers and the company may be the lost customers.

-When the inventory level is high, the risk of delays in production and supply may be avoided and the customer will always get their goods, but the cost will be increased. Companies need to invest huge sums of money to finance the inventory as well as warehouse storage costs and insurance and other costs.

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## INVENTORY MANAGEMENT TECHNIQUES

The process of controlling the inventory level, these circumstances need to be considered:

1. Amount of use
2. Storage costs
3. Order cost
4. Total stored
5. Total ordered
6. Reorder level

1. Total storage Cost (TSC) =  $\left(\frac{Q}{2}\right) C$

2. Total ordering cost (TOC) =  $\left(\frac{S}{Q}\right) O$

3. Total Inventory Cost (TIC) =  $\left(\frac{EOQ}{2} + SS\right) C + \left(\frac{S}{EOQ}\right) O$  @ [1 + 2]

4. Economic Order Quantity (EOQ) =  $\sqrt{2SO/C}$

5. TIC at EOQ level =  $\left(\frac{EOQ}{2} + SS\right) C + \left(\frac{S}{EOQ}\right) O$

6. Reorder Level (ROL) =  $SS + [Delivery\ period \times \frac{S}{days\ work}]$

7. Average Inventory (AI) =  $\left(\frac{EOQ}{2}\right) + SS$

8. Annual No Of Orders (ANO) =  $\frac{S}{EOQ}$

9. Total Inventory Cost (TIC with SS) =  $\left(\frac{EOQ}{2}\right) C + \left(\frac{S}{EOQ}\right) O$

S – total demand / total quantity selling

C – carrying cost / storage cost

O – ordering cost

Q – quantity demand

EOQ – Economic Order Quantity

SS – safety Stock

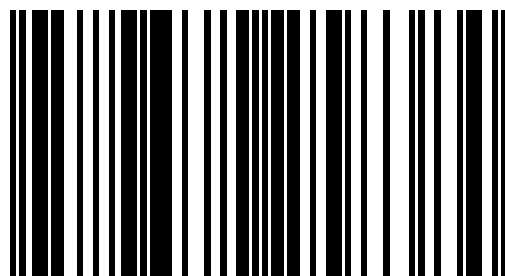
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