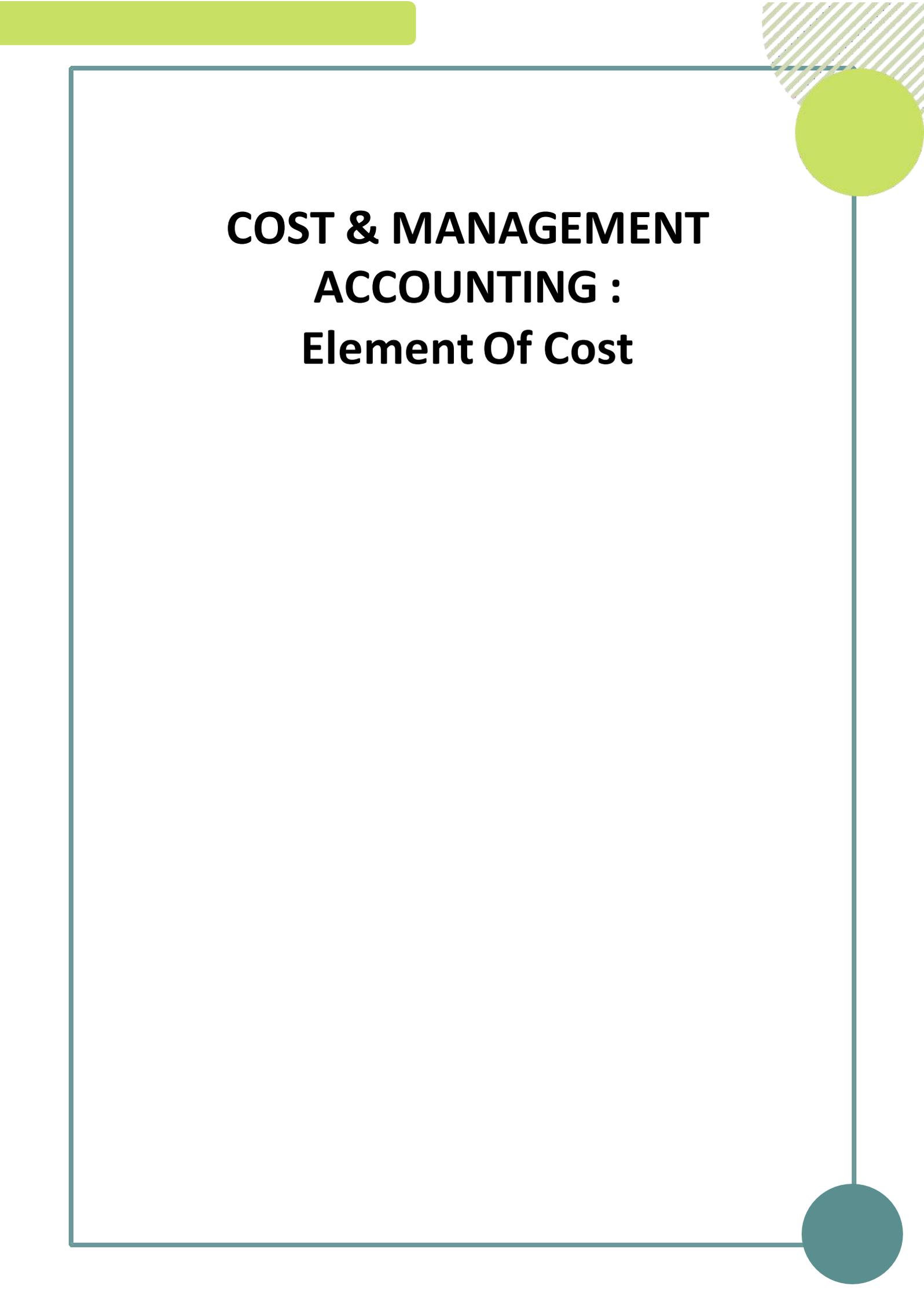




Cost & MANAGEMENT ACCOUNTING
ELEMENT
of **COST**

Accounting Students

Raja Nazima Binti Raja Ahmad
Nurulhuda Binti Aziz
Ati Arini Binti Salim



**COST & MANAGEMENT
ACCOUNTING :
Element Of Cost**

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We hereby declare that this module is our original work. To the best of our knowledge it contains no materials previously written or published by another person. However, if there is any, due acknowledgement and credit are mentioned accordingly in the e-book.

PREFACE

This is the first release of our e-book “COST OF MANAGEMENT ACCOUNTING”.

We were anxious at the beginning when we start writing this e-book but towards the end, we were so eager to see the final result. Preparing notes, pictures, graphic, exercises as well as some interactive tools in this e-book is quite a challenging tasks for us. But *alhamdulillah*, we manage to finish it in time .

This e-book deals with the topic of “Elements Of Cost” and their application to costing methods. All the three elements such as material, labour and overhead are being discuss extensively . Relevant exercises are also included at the end of every chapter, with solutions at the end of the e-book.

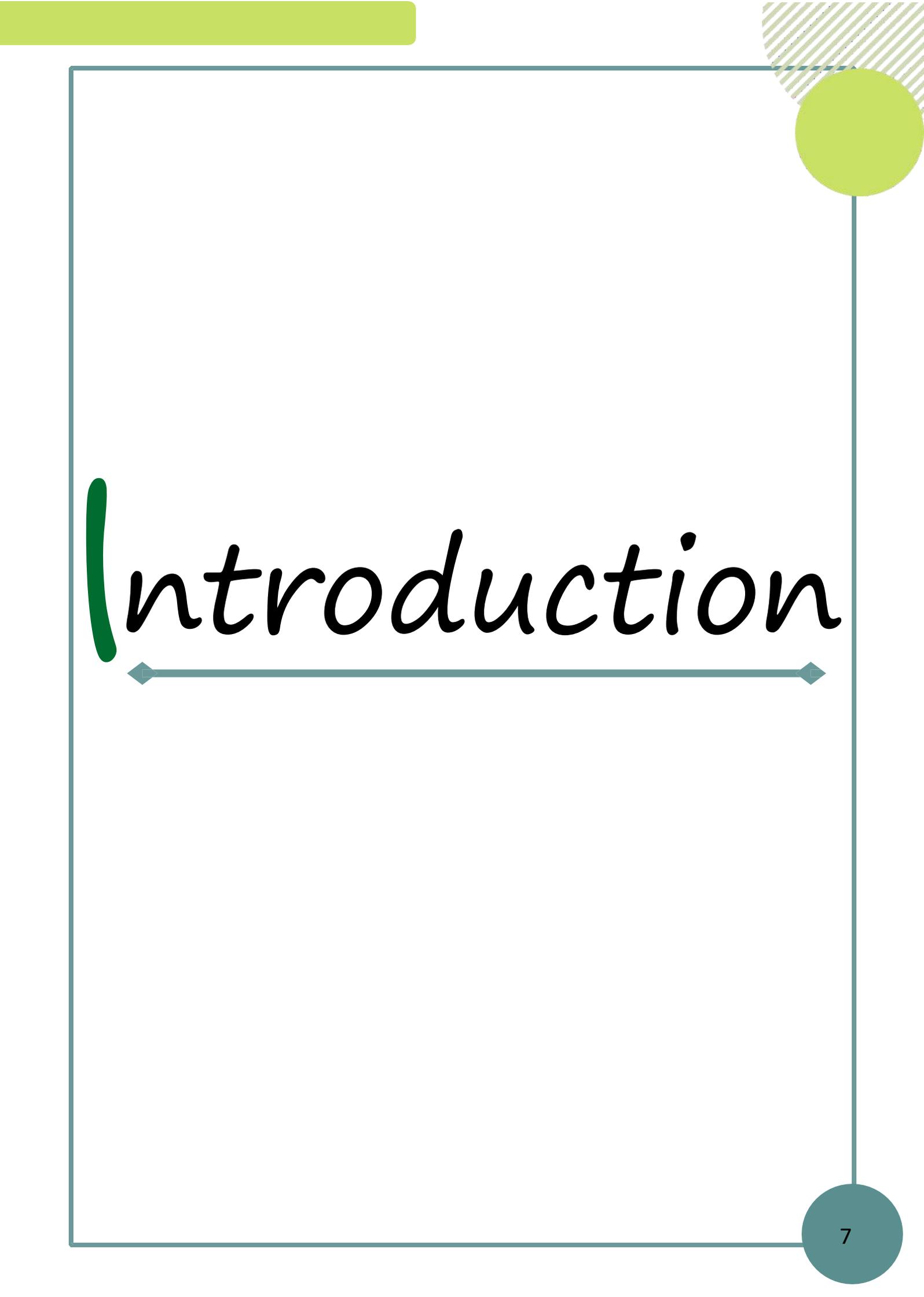
Our hope is that by using this e-book, students will stimulate their interest in learning the element of cost and later on be able to prepare the cost control in any related field.

September 2022.



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Introduction

PRODUCT AND SERVICE COSTING

INTRODUCTION

In determining the price of a product or service to be sold to the customer, the cost of the product or service need to be determined.

Product costs or also called manufacturing cost include all cost elements to enable finished products and services ready to be sold to customers to gain revenue for the business. These include direct material, direct labour and indirect cost (overhead cost).

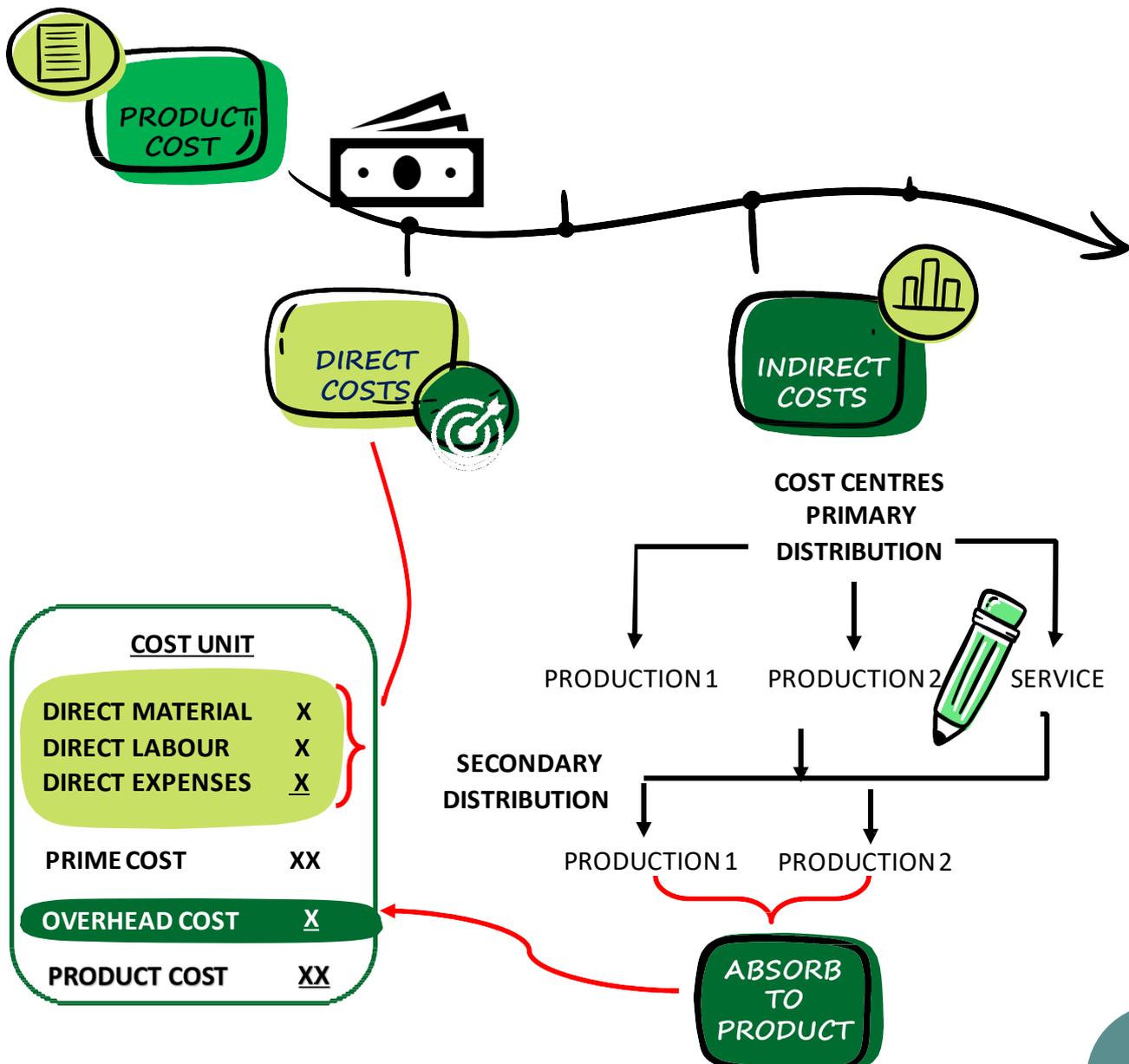


https://youtu.be/ONzIJ_19oug



CLICK here for more information

How to calculate the cost of product or services can be simplified as below:



Manufacturing consists of activities and processes that converts raw materials to finished goods. Below is an example of the element of cost involved in the process of making wooden stools.



Element of cost: Wood, Screw/ nails Varnish/ paint

Classification: Direct material

Remarks: Cost that can be directly traced to a particular product (cost object).

Example: 3 meter of wood needed to make a wooden stool. The cost of wood is RM22/ meter. Cost involved the main material used to make a product.



Element of cost: Cost of material used to maintain machine example oil lubricant for machine

Classification: Indirect material (manufacturing overhead)

Remarks: Cost of the material that cannot be traced directly to a particular product and not part/not physically become part of the finished goods (cost object).

The cost (RM) is not material or the quantity is very small on a per product basis.



Element of cost: Carpenter

Classification: Direct labour

Remarks: The remuneration paid to skilled and unskilled workers for work directly related to the production.

Example: 2 hours to make a chair (RM30 per hour is paid to the carpenter)



Element of cost: Management/ administration/ supervisors/ security guard associated to the manufacturing departments

Classification: Indirect labour (manufacturing overhead)

Remarks: Wages paid to workers that are not directly involved in the manufacturing of a specific product.



Element of cost: Electricity, water, machine maintenance, cleaning, lubricant oil, rental of workshop cost for manufacturing product

Classification: Manufacturing overhead

Remarks: All indirect cost which cannot be easily identified to a specific product.

Example: The electricity cost is for the whole workshop, including the area/space that's not doing production such as administration office.



Those indirect cost will be then allocated and apportioned to the production department. The indirect cost is later absorbed to the unit product.



Element of cost: Wooden stool

Classification: Finished product

Remarks: The cost of the wooden stool inclusive of:

- Direct material cost
- Direct labour cost
- Direct expenses
- Manufacturing overhead

Material

MATERIAL AND STORE ORGANISATION

Material is one of the important element needed in a production of a product. It is referred as **current asset** in an organization as it involves **purchasing of raw material** (example: flour, yeast, salt, water) and the raw material is **processed into finished good** (bread) which is then sold to customers for cash. In a manufacturing environment, material can be categorized into direct material and indirect material.

Direct materials costs consist of the main item (large portion) that is used in making a product and the cost can be traced directly to the specific product or services. For example: In the making of bread, flour is the direct material.

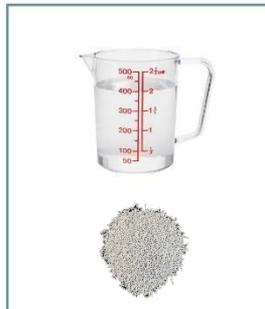
Indirect materials costs include the cost of material that is not part of the finished product and cannot be traced directly to the specific product or services. Example : hand gloves used by the chef in making bread.

EXAMPLE OF DIRECT AND INDIRECT MATERIAL IN THE PROCESS OF MAKING BREAD

DIRECT MATERIAL – WATER & YEAST



DIRECT MATERIAL - FLOUR



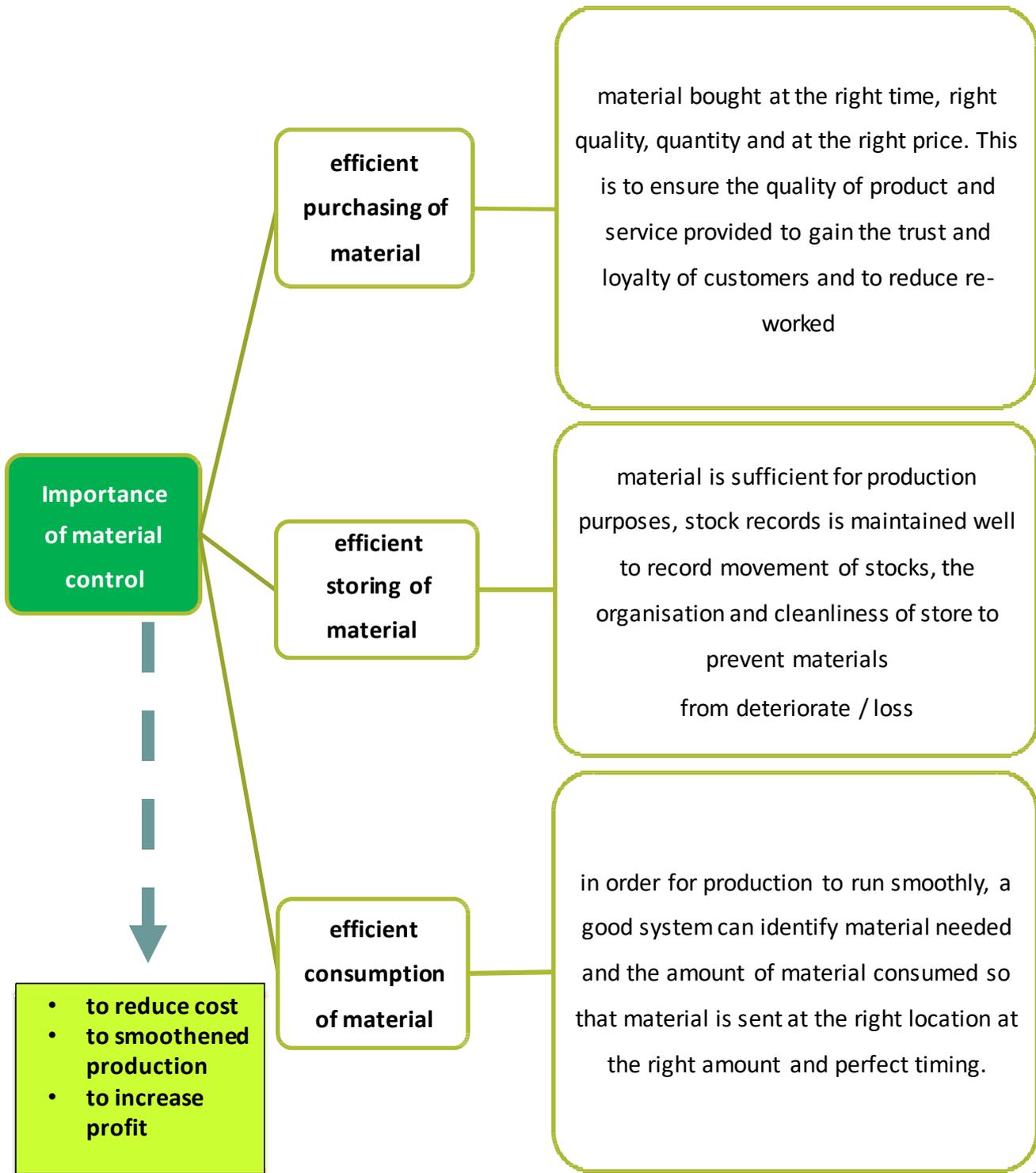
INDIRECT MATERIAL – GLOVE



FINISHED PRODUCT - BREAD

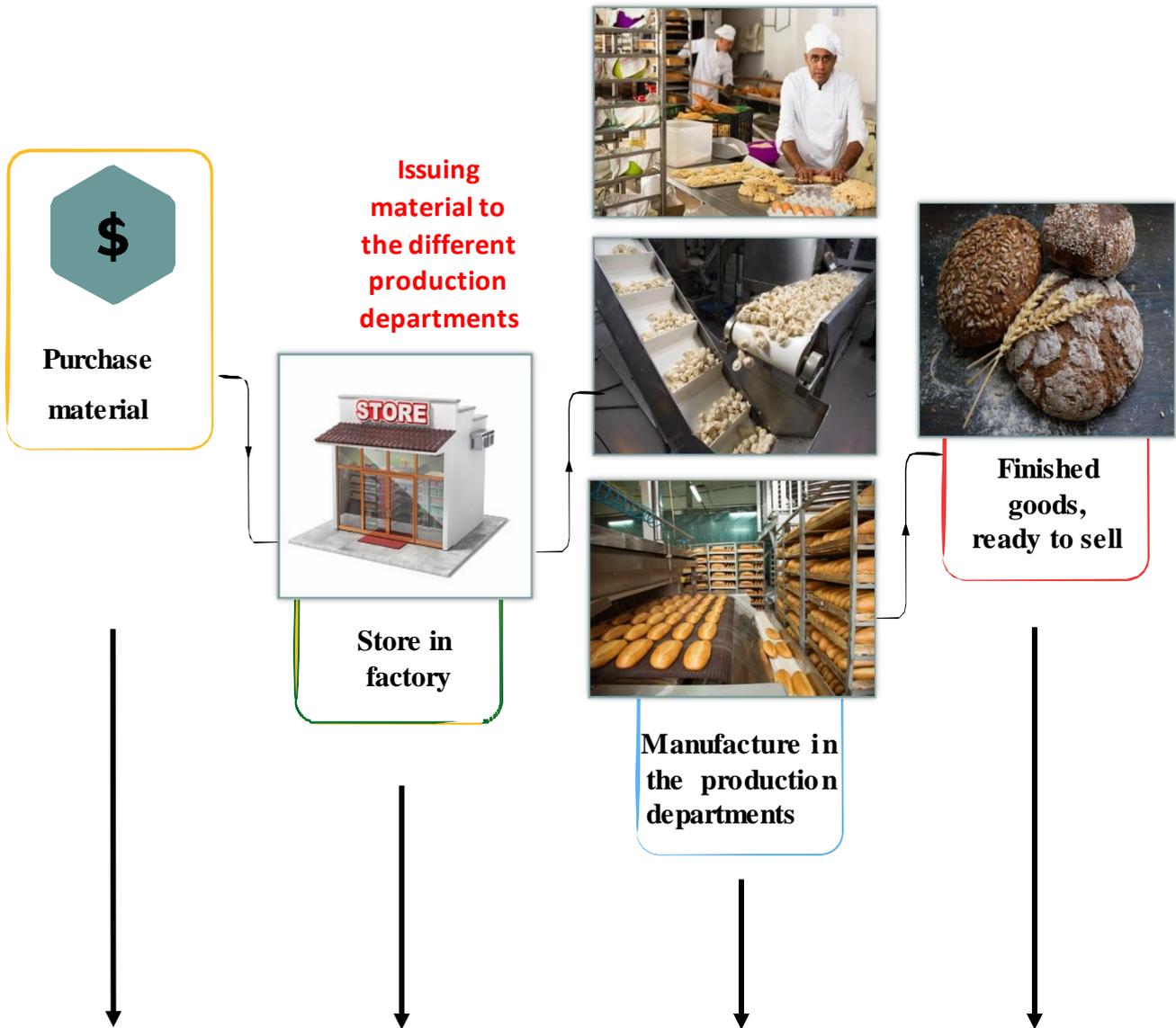
THE IMPORTANCE OF MATERIAL CONTROL

Raw material must always be available before a production can begin its processes. In a factory manufacturing product, the component of raw material is large and involved a huge sum of cost. Therefore, **a good material control** is essential to avoid loss due to wastages, errors, theft and etc.



MATERIAL CONTROL – HOW??

Below is the illustration of direct material flow in the production of bread:



- Purchasing procedures
- Documents
- Recording

- Store control - levels of inventory eg:
- EOQ
 - Re-order level
 - Minimum Stock level
 - Maximum stock level
 - Average stock level
 - Stocktaking
 - Recording & authorization
 - Cleanliness
 - Store layout

- Issuing procedures / authorization
- Documents
- Recording
- Supervision
- Recording
- Quality check

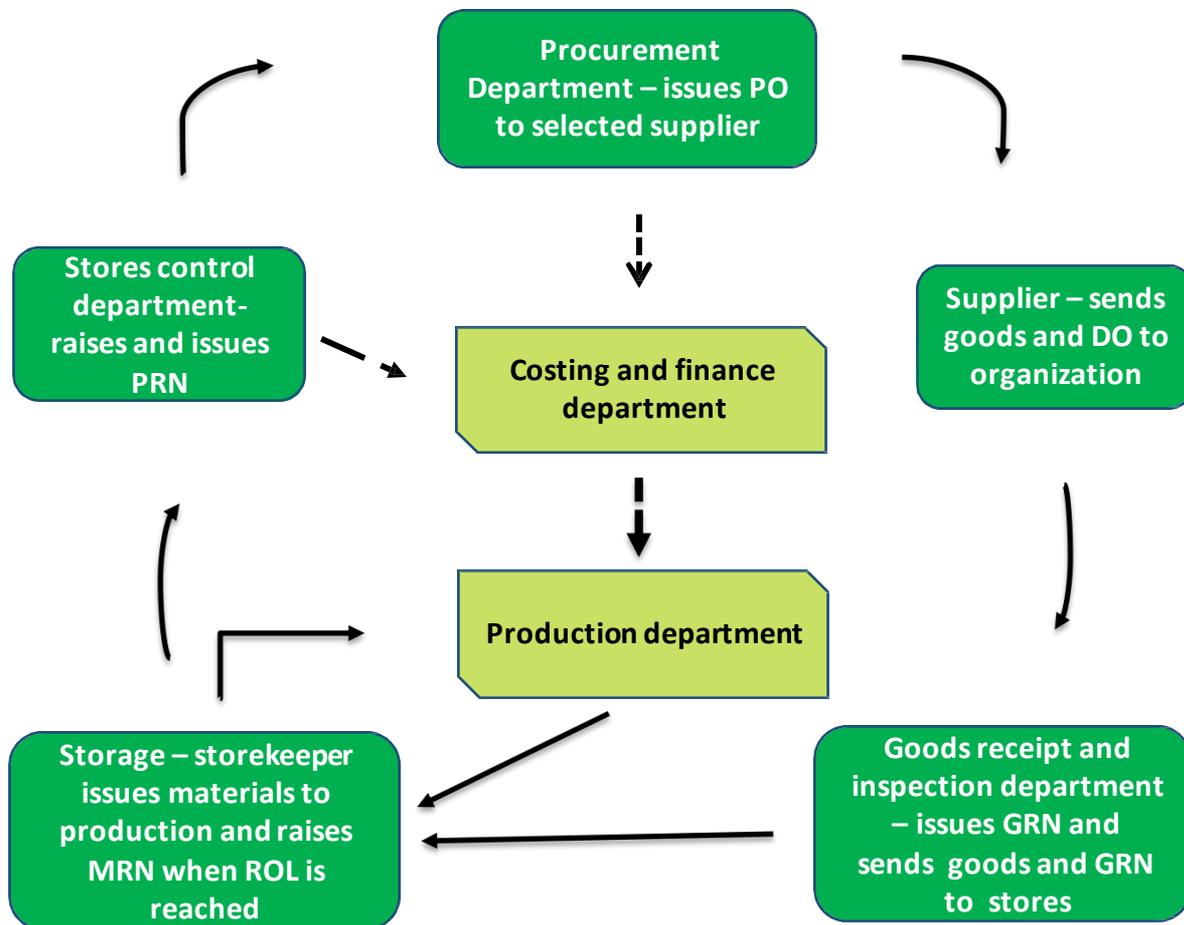
- Documents
- Authorization
- Supervision
- Recording

PURCHASING PROCEDURE

Department that is **responsible** in purchasing raw material for an organization is called the **Purchasing Department**. Some of the function of purchasing department is to determine what material need to be purchased, at what quantity, when to buy, at what price, the quality and the delivery of the goods.

MATDOC: <https://anyflip.com/iomdq/plhw/>

Below is an example of **the material control cycle**:



Material control cycle (source : Rozainun et al, Oxford; Management Accounting 3rd edition)

PRN – Purchase requisition note
 PO – Purchase order
 DO – delivery order

MRN – material requisition note
 GRN – good received note
 ROL – Re-order level

STORE CONTROL

After material is bought into an organization, it is being kept in the **store** before issued to production for the manufacturing process. However, the system will differ from one organization to another depending on **the inventory management system** adopted by the organization such as in just-In-time (JIT) management methods. In JIT, inventory is only bought when it is needed without investing in storing it.

Whilst the investment of stock represents the company working capital, there should be **proper control measures** to avoid monetary loss and production delay.

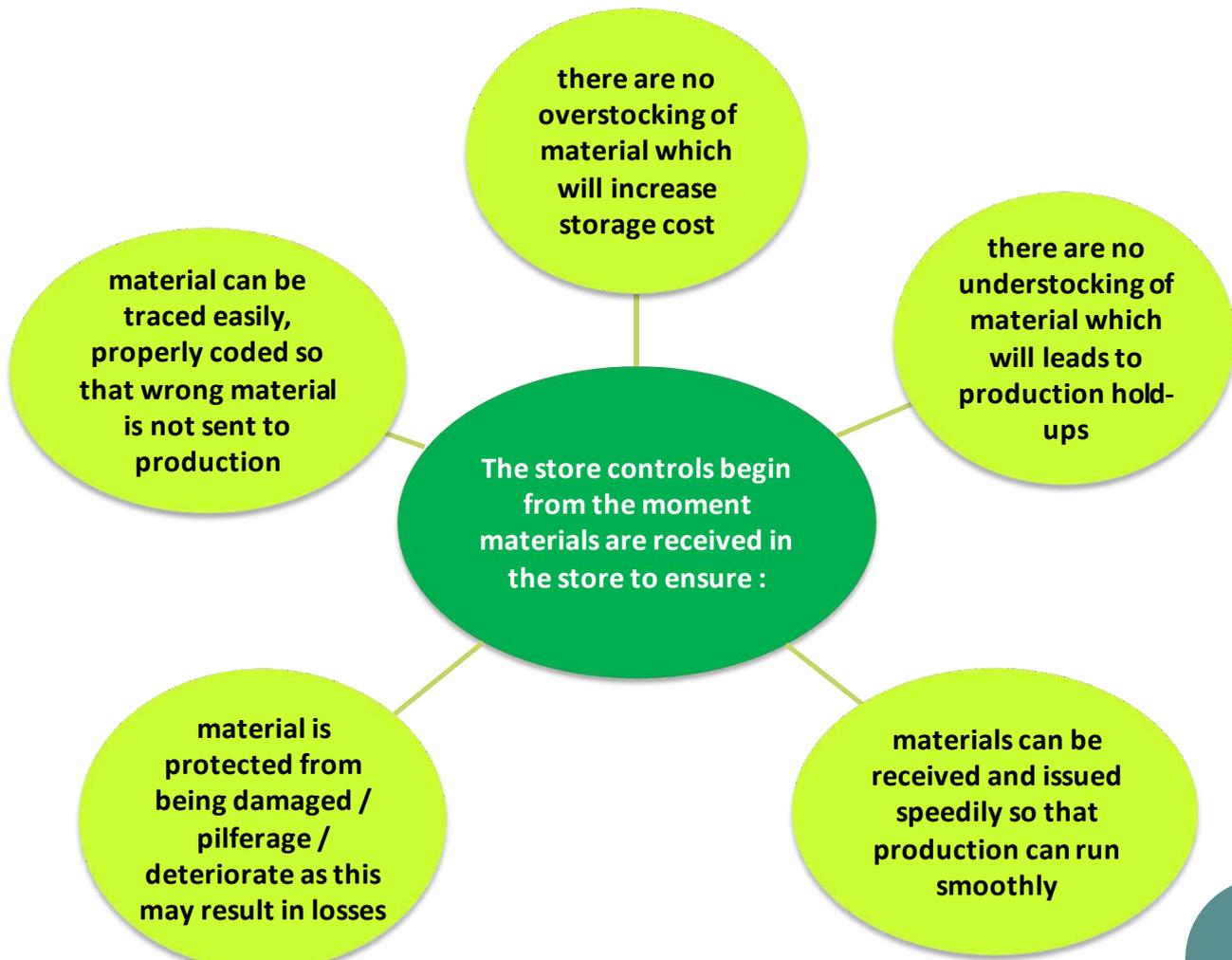


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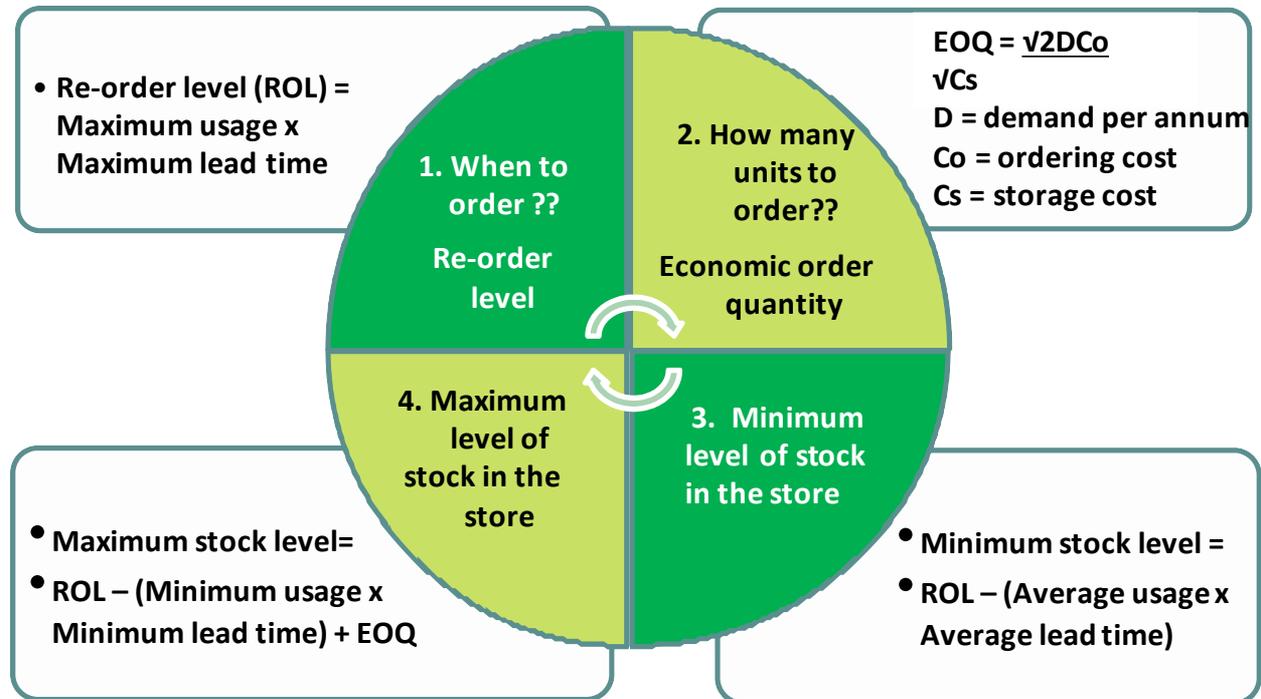
Some of the **importance of store control** is shown in the diagram below:



An **effective inventory control system** includes the adoption of the following techniques:

1. Setting inventory control levels (**Re-order level, minimum stock level, maximum stock level, inventory turnover ratio, Economic order quantity model (EOQ)**)
2. Maintaining **proper inventory records** and proper authorization for each process involving the movement of inventory
3. Stocktaking
4. Classification of inventory
5. Pricing of material issues

SOME CALCULATION ON SETTING THE LEVEL OF INVENTORY



4. Average stock level =

* opening stock + closing stock / 2

Minimum stock level + max stock level
2

Minimum level + quantity ordered / 2

5. Inventory turnover ratio =

Quantity issued into production in a period
 *Average stock level in the same period

* opening stock + closing stock / 2

INVENTORY RECORDING AND PRICING

In the store, the store keeper will record the **movements of stock in and out** of the store. Inventory can be recorded using a perpetual inventory system or periodic inventory system.

Perpetual inventory system

- records receipts and issues of stock **continuously** after each transaction
- to records of issues and receipts in the store **using the store ledger** may use FIFO, weighted average and simple average method of pricing
- **estimates** inventory based records, not by physical counting of stock.
- show balance of stock **up-to-date**
- example of documents used is bin cards, store ledger, nowadays most company maintain computerized store recording system

Periodic inventory system

- updates on inventory are made **on periodic basis** such as at the end of an accounting period or quarterly or any period specified by the company
- conducting **physical inventory count** of inventories at the specific period

RECORDING THE PRICE OF INVENTORY ISSUES

The **pricing of material issues and receipt** in store will depend on the price fluctuations, the job type and the nature of the materials. There are several methods that can be used and it depends to which method that is suitable for the business. In this e-book, 3 methods will be explained:

•First In First Out

- The cost of inventory will be value based on the assumptions that inventory that came in first will be sold/issued first.

•Simple Average

- The cost per unit of inventory arrived by averaging the purchase price.

•Weighted Average

- The cost per unit arrived by dividing the total cost of goods purchase by total number of item purchased.

Let's look at this example:

As the account assistant in the Purchasing Department of EX Sdn Bhd, you are required to calculate the closing stock for the material. The material is bought in bulk and recent receipts and issues have been:

Stock at 31 December 2021 are as below: 100 kg @ RM4.00

200 kg @ RM5.20

250 kg @ RM6.00

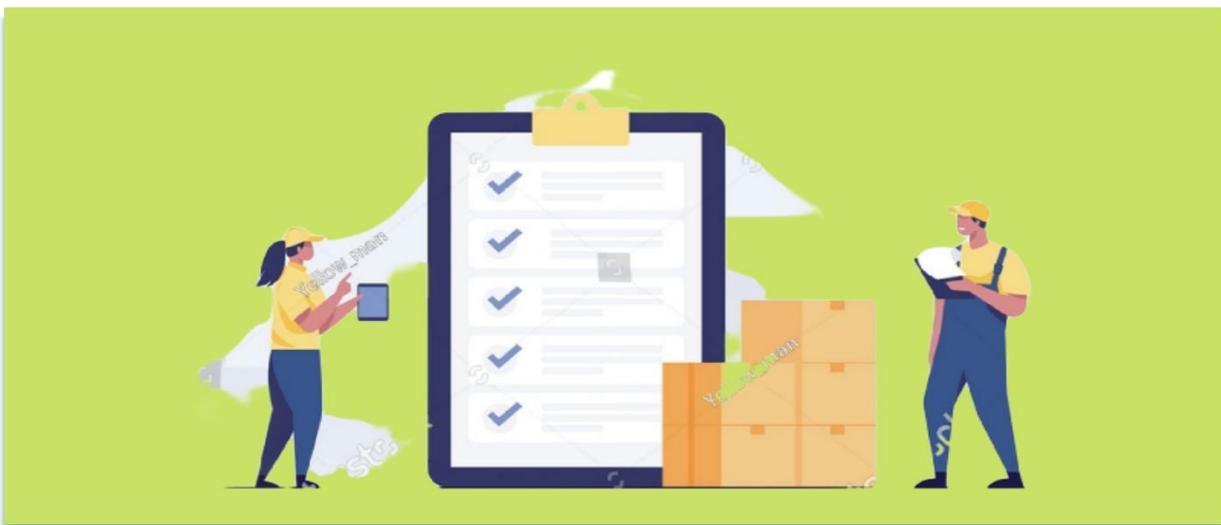
200 kg @ RM4.80

3/1/22	Receipts	2000 kilos at RM5 per kilo
6/1/22	Receipts	1500 kilos at RM5.5 per kilo
9/1/22	Issues	3500 kilos
12/1/22	Receipts	3000 kilos at RM4.5 per kilo
14/1/22	Issues	3500 kilos

Required:

Calculate the cost issue of material for January and calculate the value of the closing stock on the following bases:

- FIFO
- Simple average
- Weighted average



ANSWER

a) FIFO

Date	Details	Receipts			Issues			Balance			
Jan		Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt	
1	Bal	750	5.2	3900				750	5.2	3900	
3	Receipts	2000	5	10000				2000	5	10000	
6	Receipts	1500	5.5	8250				1500	5.5	8250	
9	Issued				750	5.2	3900				
					2000	5	10000				
					750	5.5	4125	750	5.5	4125	
12	Receipts	3000	4.5	13500				3000	4.5	13500	
14	Issued				750	5.5	4125				
					2750	4.5	12375				
			Closing stock						250	4.5	1125

b) Simple average

Date	Details	Receipts			Issues			Balance			
Jan		Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt	
1	Bal	750	5.2	3900				750	a. 5.2	3900	
3	Receipts	2000	5	10000				2750	b. 5.1	14025	
6	Receipts	1500	5.5	8250				4250	c. 5.23	22227.5	
9	Issued				3500	5.23	18305	750	5.23	3922.5	
12	Receipts	3000	4.5	13500				3750	5.05	18937.5	
14	Issued				3500	5.05	17675				
			Closing stock						250	5.05	1262.5

Workings:

a. $(5.2 + 5) / 2 = 5.1$

b. $(5.2 + 5 + 5.5) / 3 = 5.23$

c. $(5.2 + 5 + 5.5 + 4.5) / 4 = 5.05$

c) Weighted average

Date	Details	Receipts			Issues			Balance		
Jan		Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
1	Bal	750	5.2	3900				750	5.2	3900
3	Receipt	2000	5	10000				2750	a. 5.05	13887.5
6	Receipt	1500	5.5	8250				4250	b. 5.21	22142.5
9	Issued				3500	5.21	18235	750	5.21	3907.5
12	Receipt	3000	4.5	13500				3750	c. 4.64	17400
14	Issued				3500	4.64	16240			
					Closing stock			250	4.64	1160

Workings:

- a. $(3900 + 10000) / 2750 = 5.050$
- b. $(13887.5 + 8250) / 4250 = 5.21$
- c. $(3907.5 + 13500) / 3750 = 4.64$



RECORDING OF INVENTORY USING PERPETUAL AND PERIODIC SYSTEM (JOURNAL ENTRY)

Recording inventory using perpetual and periodic inventory system in the accounting department.

Example:

Beginning inventory (50 unit @RM5)	RM250
Purchase material (800 unit@RM5)	RM4,000
Sell (750 units @RM12)	RM9,000
Ending inventory	RM500

Perpetual inventory system		Periodic inventory system	
Record purchasing of inventory			
Dr Inventory	RM4,000	Dr Purchases	RM4,000
Cr Cash/Acc Receivables	RM4,000	Cr Cash	RM4,000
Record sales of inventory			
Dr Cost of good sold	RM3,750	Cr Cash/Acc Receivables	RM9,000
Cr Inventory	RM3,750	Cr Sales	RM9,000
Dr Cash/Acc Receivables	RM9,000		
Cr Sales	RM9,000		
Record at the end of the period			
No entry		Dr Cost of good sold	RM3,750**
		Dr Inventory	RM 250
		Cr Purchases	RM4,000 **
		(opening inv + purchase - COGS = Closing inv)	
		250 + 4000 – COGS = 500	
		COGS = RM3,750	

TUTORIAL EXERCISE

1. Explain how economic order quantity (EOQ) is beneficial in a manufacturing environment.
2. Explain reasons why store control is important in an organization.
3. List **SEVEN (7)** types of documents involved in a purchasing procedure.
4. Describe the purchasing process and the documents used in each process.
5. Define direct material and indirect material and give an example for each.
6. VCoco Sdn Bhd is planning to purchase 300,000 units of plastic bottles next year. The cost of the product is RM15.00 per unit. The cost of handling the product for a year is RM5 per unit. The order cost is estimated at RM10 per order, and 20% should be added to the ordering costs to allow for economic inflation. Below is the information regarding the stock level and the lead time of the products;

Average usage	700 units per day
Minimum usage	500 units per day
Maximum usage	900 units per day
Lead time	20 – 25 days

- a) Based on the above data, calculate;
 - i. Economic Order Quantity
 - ii. Stock Re-order Level
 - iii. Maximum Stock Level
7. As a trainee in the Purchase Department of Meena, you are required to calculate the closing stock for a type of material using the FIFO method (First In First Out), Simple average and WACO (Weighted Average Method)
Stock at 31 December 2021 are 900 units @ RM2.30

Transaction for the year 2021:

January	Issue 300 units @ RM2.00
February	Purchase 1,000 units @ RM1.80
March	Issue 500 units @ RM2.20
April	Issue 250 units @ RM2.30
May	Purchase 500 units @ RM2.00
June	Issue 1000 units @ RM2.40

8. DAT4 Sdn. Bhd. produces bags made from material Z. The details of material Z required to produce the product are as follows:

Kg of material Z used in a year	1,000,000 kg
Purchase price of material Z	RM0.50 per kg
Opening stock of Material Z	RM150,000
Closing stock of Material Z	RM100,000

Referring to the above information, calculate the rate of stock turnover of Material Z?

9. JP Sdn. Bhd. is a company producing soap. The company is planning to purchase 6,000,000 liters of lavender oil for the next year due to the high demand from customers. The cost of lavender oil is RM1 per liter. The cost of handling lavender oil is estimated at 10% of the purchase price. To place and receive orders, it is estimated to be RM15 each order. Below is the information of the products:-

Minimum usage	400,000 liters per month
Maximum usage	600,000 liters per month
Lead time	12 – 20 weeks

Based on the above data, calculate:-

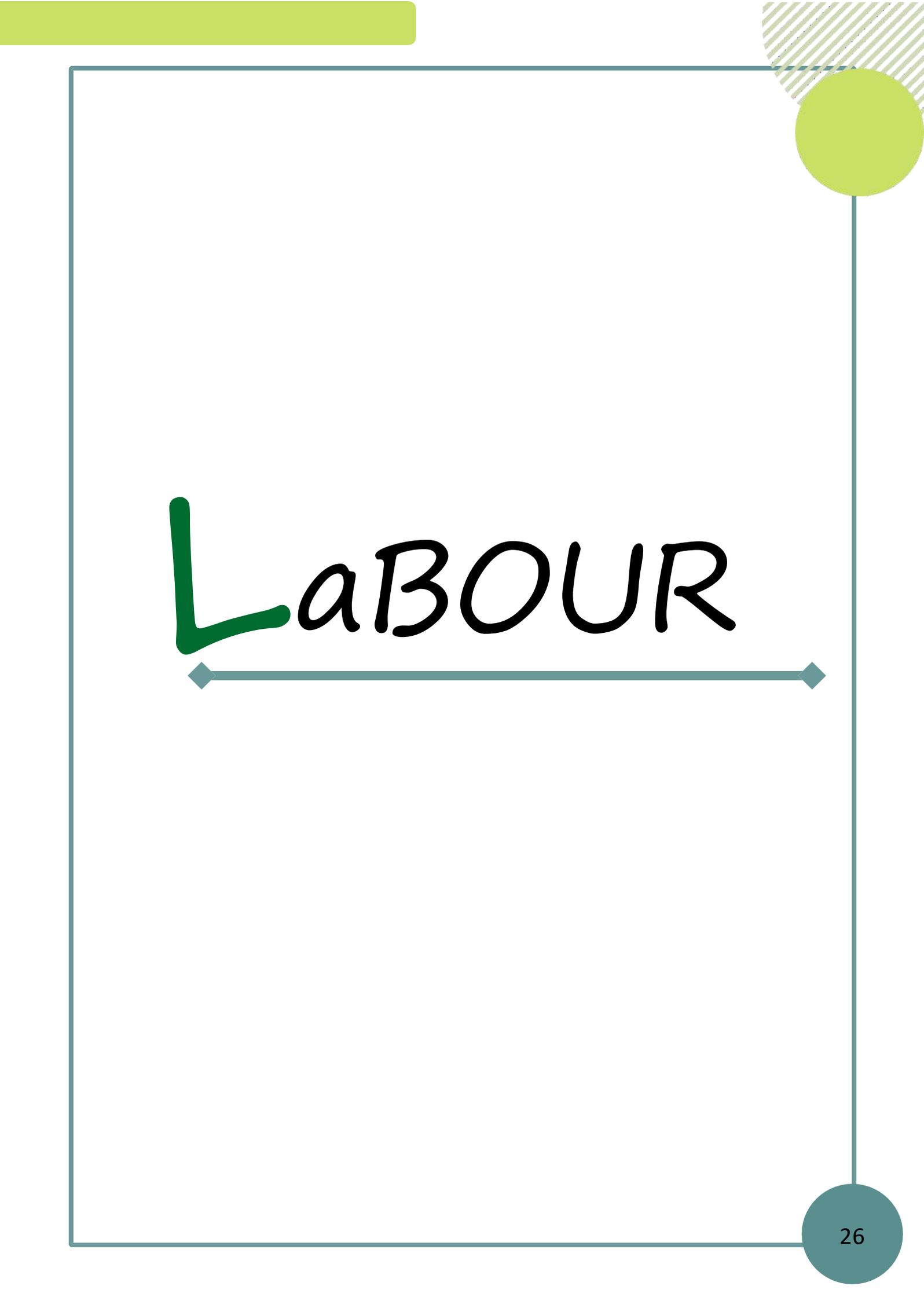
- Economic Order Quantity (EOQ) in units
- Reorder level of stock
- Minimum level of stock
- Maximum level of stock
- Average stock level
- The number of orders per year

10. D'licious is a factory producing electric car components for export purposes. The factory operates 50 weeks in a year. Below is information of the main material (EC2) used for production.

EC2 consumption	12,000 units to 14,000 units a week
Lead time	2 – 6 week
Storage cost	10% of the component cost
Order cost	RM50 per order
Cost of EC2	RM4

As the account clerk, you are required to determine the:

- The level at which EC2 should be ordered to replenish the stock in store.
- The quantity should be ordered each time.
- The minimum stock level
- The maximum level of stock in the store
- If D'licious decided to order at 13,500 unit each time, what would be the additional cost that D'licious have to bear?



LABOUR

LABOUR

INTRODUCTION TO LABOUR COST

Labour cost represent one of the most important cost in every industry including manufacturing organization.

Two types of labour cost in organizations:

1. Direct wages/labour paid to production workers.
2. Indirect wages include payment of overtime premium and the salary of supervisors.

Direct wages/labour consist of labour costs that can be specifically traced to or identified with a particular product.

Classify as a prime cost.

Example: wages of operation wokers who assemble parts into the finished product.

Indirect wages/labour is the wages cost other than direct wages.

Classify as manufacturing overhead cost. Example: salaries of factory supervisors

RECORDING AND CONTROLLING OF LABOUR COST

The recording and controlling of labour cost involve several activities and departments include the recruitment, training, recording and costing of labour. The departments involved are such as:

1. Human resource department
2. Timekeeping department
3. Cost accounting department

HUMAN RESOURCE (HR) DEPARTMENT

The role of HR department include:

- The recruitment of candidates for the organization
- Preparing the payroll
- Designing remuneration package
- Identifying and meeting the training for staffs
- Ensuring of employee welfare and safe working place



TIME KEEPING DEPARTMENT

The process of recording employee work time and responsible for recording:

- Employee attendance
- Time spent by each employee in factory and job is recorded in a time sheet on a daily, weekly and monthly basis.



The following methods are used for recording labour times:

- Time sheets:** employee complete this sheet by record the time spent on each job and sent to the cost department daily or weekly
- Job cards:** employee complete this card by record the time spent on particular job
- Job tickets:** this card use for each operation within a single job.
- A daily register:** employees will sign in when they arrive for work and sign out when they leave
- Clock card:** employees will clock in and clock out each day
- Electronic swipe cards:** employees use an electronic swipe card

Idle time occurs when employees no fault of theirs, cannot get their work done. This happens due to:

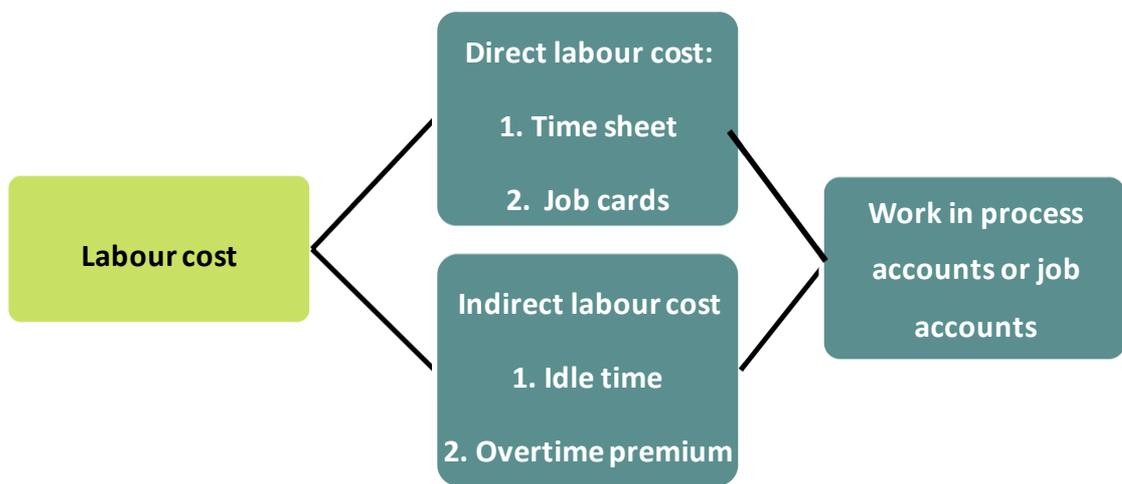
- machine breakdowns
- delay in raw material stock
- waiting for work
- material shortages

The idle time ratio is calculated:

$$\frac{\text{Idle hours} \times 100}{\text{Total hours}}$$

COST ACCOUNTING DEPARTMENT

Labour cost is ascertained by maintaining a job cost card for each job. The details of labour time spent in each job and the agrees wage rate provides the basis of calculation of labour costs for each job. Idle time report should be recorded and attached with the time sheet. The company will be paid the wages to their employees for the idle time of the unproductive hours. This cost will be treated as indirect labour cost.



REMUNERATION METHODS

Three basic methods of remuneration that can be used to increase or improve productivity are:

1. Time based scheme
2. Piecework scheme
3. Bonus / incentive schemes

TIME BASED SCHEME (DAY RATE SCHEME)

Employee is paid on the basis of hours **worked** at a basic rate per hour.

Wages are calculated = Total hours x Rate per hour

Example: Mrs. Zandra worked 40 hours in the first week of July. The rate per hour is RM10. What will her gross wage be?

Gross wage = 40 hours x RM10 = RM400 OVERTIME PREMIUM

A premium is paid for working overtime at a premium rate.

The overtime rates set by the Employment Act in Malaysia are as follows:

- Overtime on an ordinary working day = 1 ½ times the normal hourly rate
- Overtime on a rest day = 2 times the normal hourly rate
- Overtime on a public holiday = 3 times the normal hourly rate

EXAMPLE

The basic rate is RM8 per hour and a worker who works 50 hours per week is paid time and a half (1.5 times) for hours worked in excess of the normal hours 40 hours. The remuneration will be calculated as follows:

Basic pay (50 x RM8)	RM400
Overtime premium (50-40) x RM12	<u>RM120</u>
Total remuneration per week	<u>RM520</u>

ADVANTAGES

Easy to understand and administer

ADVANTAGES

Not involve in any complex wage negotiations

ADVANTAGES

Easy to calculate

DISADVANTAGES

No real incentive to increase the production

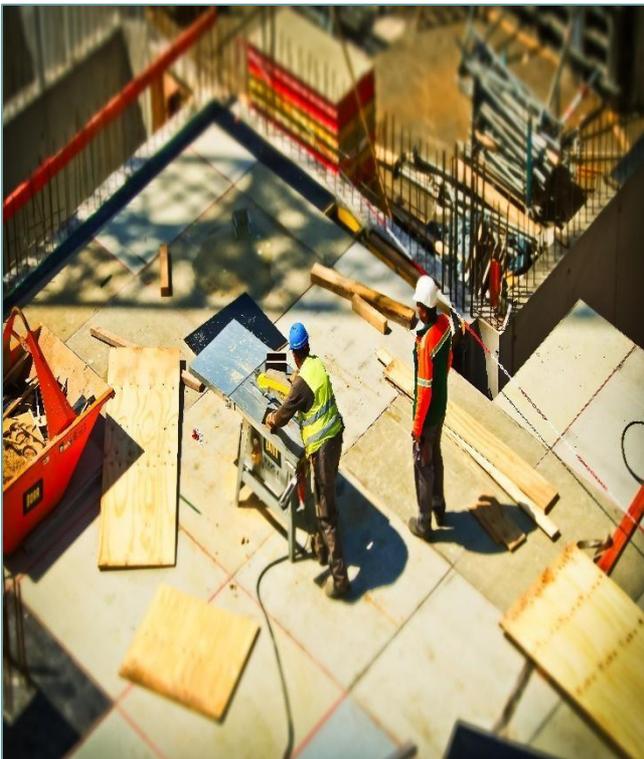
DISADVANTAGES

All the employees paid the same basic rate

DISADVANTAGES

Need high supervision cost

EXAMPLE OF LABOUR PAID BY DAY RATE SCHEME



PIECEWORK SYSTEM OR PAYMENT BY RESULT

The wages are paid on the basis of the output produced by each worker.

1. Straight piece rate system

– is a fixed rate paid for each output produced.

This method motivates employees and encourages them to increase their productivity.

Wages are calculated = Number of units produced x Rate per unit

EXAMPLE

XYZ Sdn Bhd pays a piece rate of RM5 for each output produced. Employee A completes 100 units per week, employee B completes 150 units and employee C completes 200 units per week.

Under this system, the weekly wages of each employee will be:

ANSWER

Employee A = RM5 x 100 units = RM500

Employee B = RM5 x 150 units = RM750

Employee C = RM5 x 200 units = RM1000

2. Differential piece rate system

– is a different wage rates for different levels of production.

EXAMPLE

Minion Sdn Bhd pays its production workers a differential piece rate. The rate is follows:

Up to 100 units per week	RM3
101 to 150 units per week	RM3.20
151 to 200 units per week	RM3.30
Above 200 units per week	RM3.50

In a week, Employee Tan completes 150 units, Employee Tin completes 175 units and Employee Tun completes 205 units. Calculate the wages for each employee.

ANSWER

Employee Tan = 150 units	
100 units	$100 \times \text{RM}3 = \text{RM}300$
Next 50 units	$50 \times \text{RM}3.20 = \underline{\text{RM}160}$
Total weekly wages	<u>RM460</u>
Employee Tin = 175 units	
100 units	$100 \times \text{RM}3 = \text{RM}300$
Next 50 units	$50 \times \text{RM}3.20 = \text{RM}160$
Next 25 units	$25 \times \text{RM}3.30 = \underline{\text{RM}82.50}$
Total weekly wages	<u>RM542.50</u>
Employee Tun = 205 units	
100 units	$100 \times \text{RM}3 = \text{RM}300$
Next 50 units	$50 \times \text{RM}3.20 = \text{RM}160$
Next 50 units	$50 \times \text{RM}3.30 = \text{RM}165$
Next 5 units	$5 \times \text{RM}3.50 = \underline{\text{RM}17.50}$
Total weekly wages	<u>RM642.50</u>

ADVANTAGES

Workers rewarded based on their productivity

Increased productivity will reduce fixed overhead costs per unit

Wages are paid on the basis of output

DISADVANTAGES

Difficult to establish the suitable piece rate

Quality of output maybe affected.

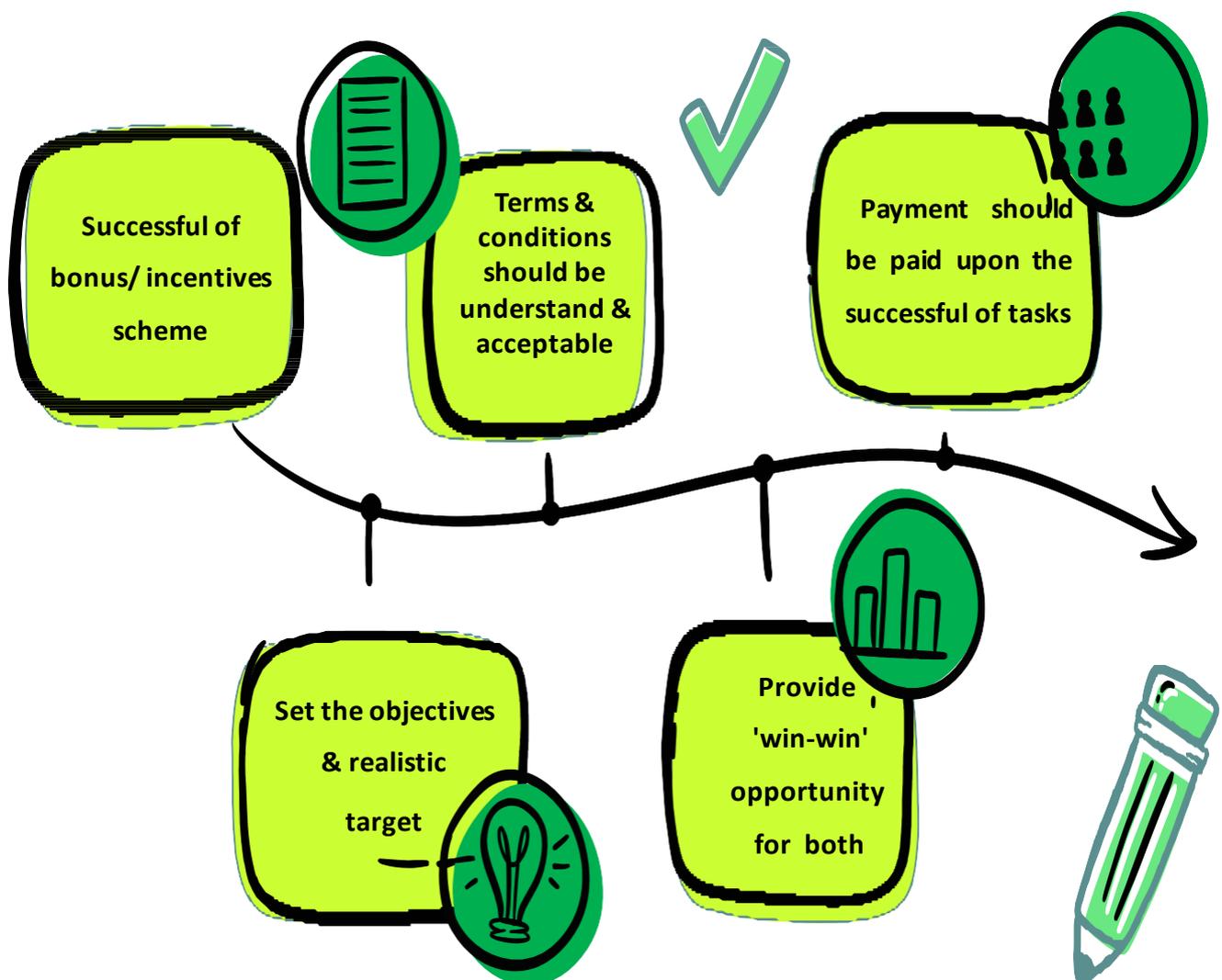
BONUS / INCENTIVE SCHEME

Incentives scheme is to increase labour efficiency and reduce the cost per unit produced.

The features of this schemes are:

1. Employees are rewarded for their efficiency
2. The profits are shared between employer and employees
3. Give motivational encouragement to employees when their efforts recognized by their employer

The **success of bonus scheme** should have some of the features below:



HIGH DAY RATE SYSTEM

A system where employees are paid a high hourly rate. A high rate is paid with the expectation that the employees will be motivated to work more efficiently than similar employees paid on a lower hourly rate.

EXAMPLE

An employee produces 300 units in a 40-hour week and he would be paid RM5 per hour, but if he produces 350 units and he would be paid RM5.50 per hour. The labour cost per unit of output would be as follows:

ANSWER

- Labour cost per unit of output on the low-rate scheme:
 $40 \times \text{RM}5 = \text{RM}0.67$ per unit 300 units
- Labour cost per unit of output on the high day rate scheme:
 $40 \times \text{RM}5.50 = \text{RM}0.63$ per unit 350 units
- Using low-rate scheme, the labour cost per unit is higher by RM0.04, but with the high day rate scheme, the labour cost per unit is lower.

ADVANTAGES

- Simple and easy to understand
- Motivates the employees and guarantees a high wage rate

DISADVANTAGES

- Need supervision to ensure quality of productivity
- Employees prefer to work at a normal rate output

INDIVIDUAL BONUS SCHEME

Individual employees receive a bonus above their basic wage. The bonus is paid to individual employee for measurable performance. The greater an individual employee's efficiency, the higher the bonus.

The bonus calculated based on individual time savings (actual time taken less standard time allowed)

EXAMPLE

The following data relates to Hayyan Sdn Bhd:

- Normal working hours per day: 8
- Basic labour rate per hour: RM7
- Standard time allowed to produce 1 unit is 2.5 minutes
- Premium bonus 50% of time saved at basic rate

Required:

What is the labour cost if 300 units are produced in one day?

ANSWER

Time allowed (300 units x 2.5 minutes)	= 750 minutes
Actual time (8 hours x 60 minutes)	= <u>480 minutes</u>
TIME SAVED	= <u>270 minutes</u>
Basic pay (8-hour x RM7)	= RM56.00
Bonus (50% x 4.5-hour x RM7)	= <u>RM15.75</u>
Total labour cost per day	= <u>RM71.75</u>



GROUP BONUS SCHEME	PROFIT SHARING SCHEME
<ul style="list-style-type: none"> • Incentive plan relates to the performance of a group workers, department or the whole factory. • Relate to the output performance of the group members. • Suitable for teamwork performance. <p>Advantages:</p> <ol style="list-style-type: none"> 1. Easy to administer 2. Encourage teamwork <p>Disadvantage:</p> <ol style="list-style-type: none"> 1. Employee groups demand low efficiency standards 2. Efficient workers are penalized for the inefficiency of the other members of the group 	<ul style="list-style-type: none"> • Employees receive bonus individually based on company's annual profits. <p>Advantages:</p> <ol style="list-style-type: none"> 1. Company will oblige to pay bonus out of its actual profit 2. Paid to all employees <p>Disadvantage:</p> <ol style="list-style-type: none"> 1. Employee has to wait until the end of the year for the bonus

MEASURING LABOUR PRODUCTIVITY

LABOUR PRODUCTIVITY is a measure of efficiency and indicates an organization's effectiveness of utilizing its labour force. The higher the production, the lower the cost per unit of product.



<https://youtu.be/mRxlCdlUYaCs>



CLICK here to watch video

Example:

Aiman Sdn Bhd is a small manufacturing company with 5 of workers. Each of worker was paid RM400 per week. Each worker works a 40 hour per week. The supervisor has been given the task to increase production. With a few workers, he is forced to put pressure on his existing workers to increase their productivity.

- In week 1, the workers produce 900 units between them. Production – 900 units
Total labour costs – RM2,000 Cost per unit – RM2.20
- In week 2, the workers produce 1,100 units between them. Production – 1,100 units
Total labour costs – RM2,000 Cost per unit – RM1.81

Conclusion:

The same labour costs the workers now produce and extra 200 units, their increase in productivity has resulted in a reduction in unit costs of RM0.39 per unit.

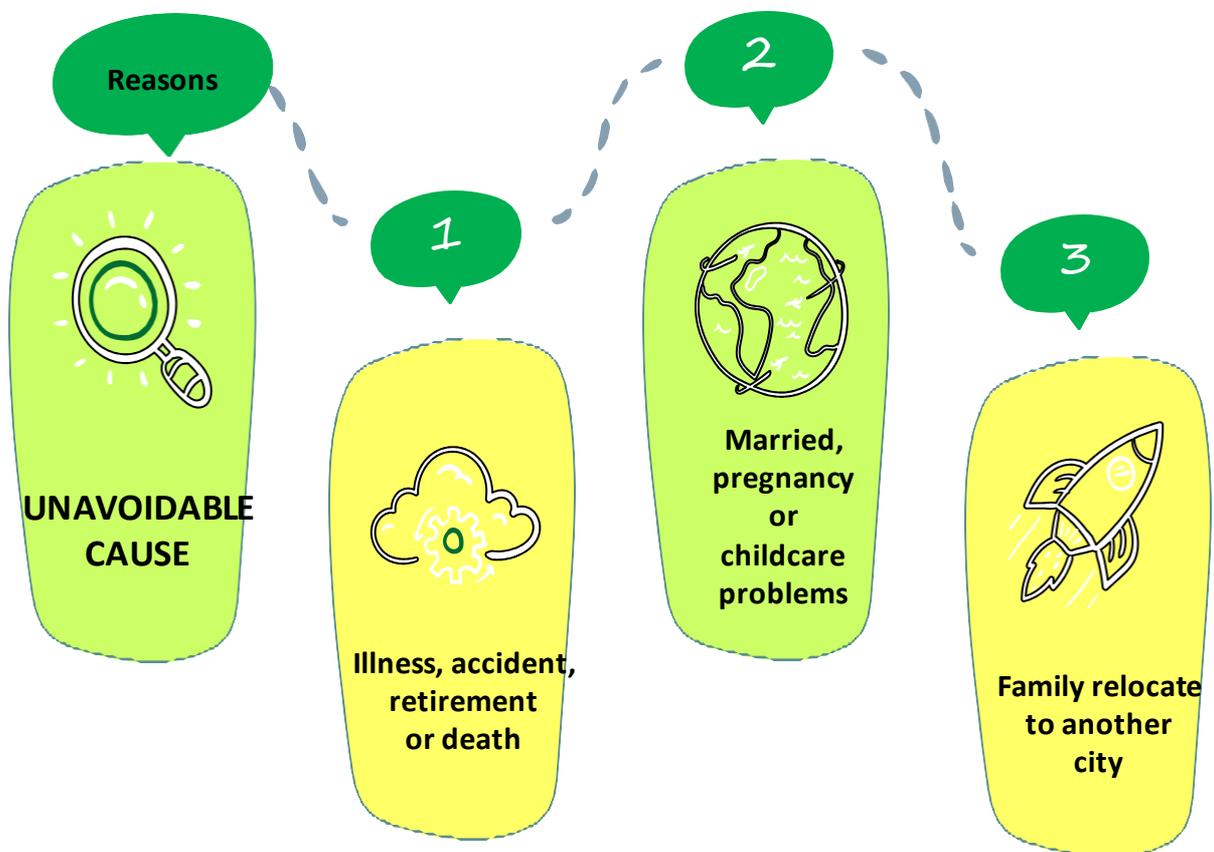
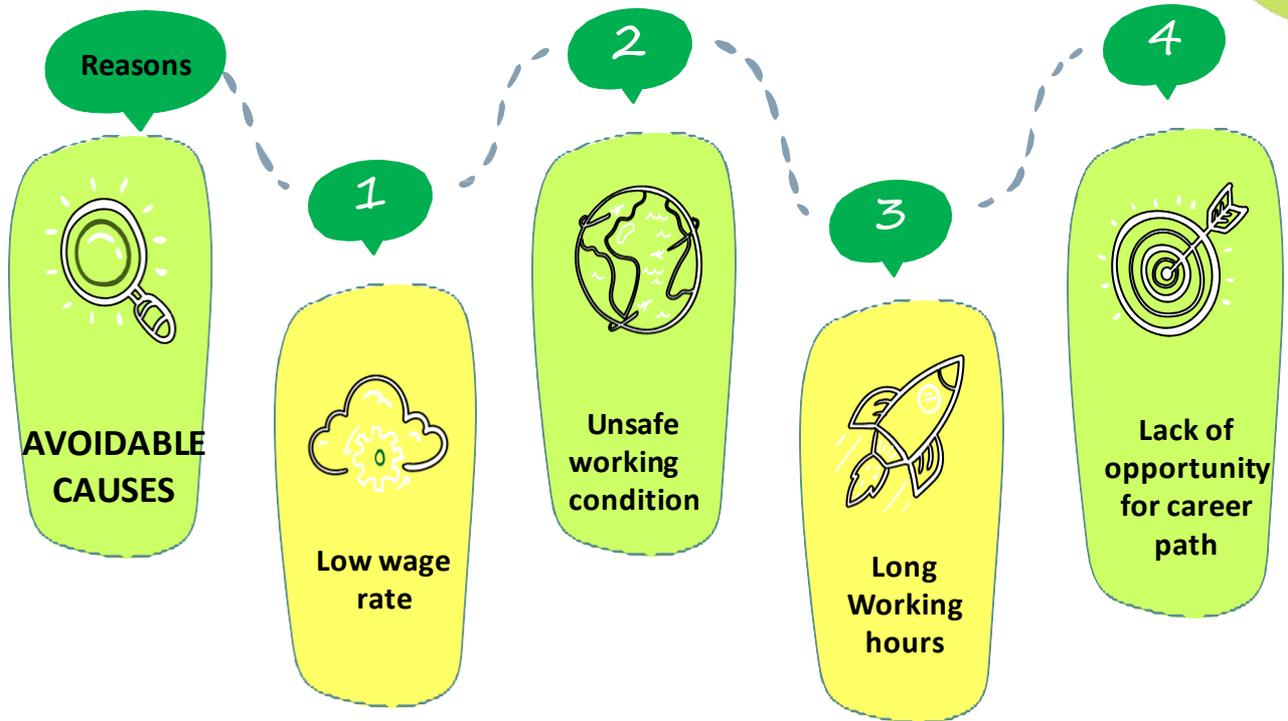
LABOUR TURNOVER

The rate at which employees leave a company and are being replaced during a period. The **more the workers leave** the company, the **higher the labour turnover**.

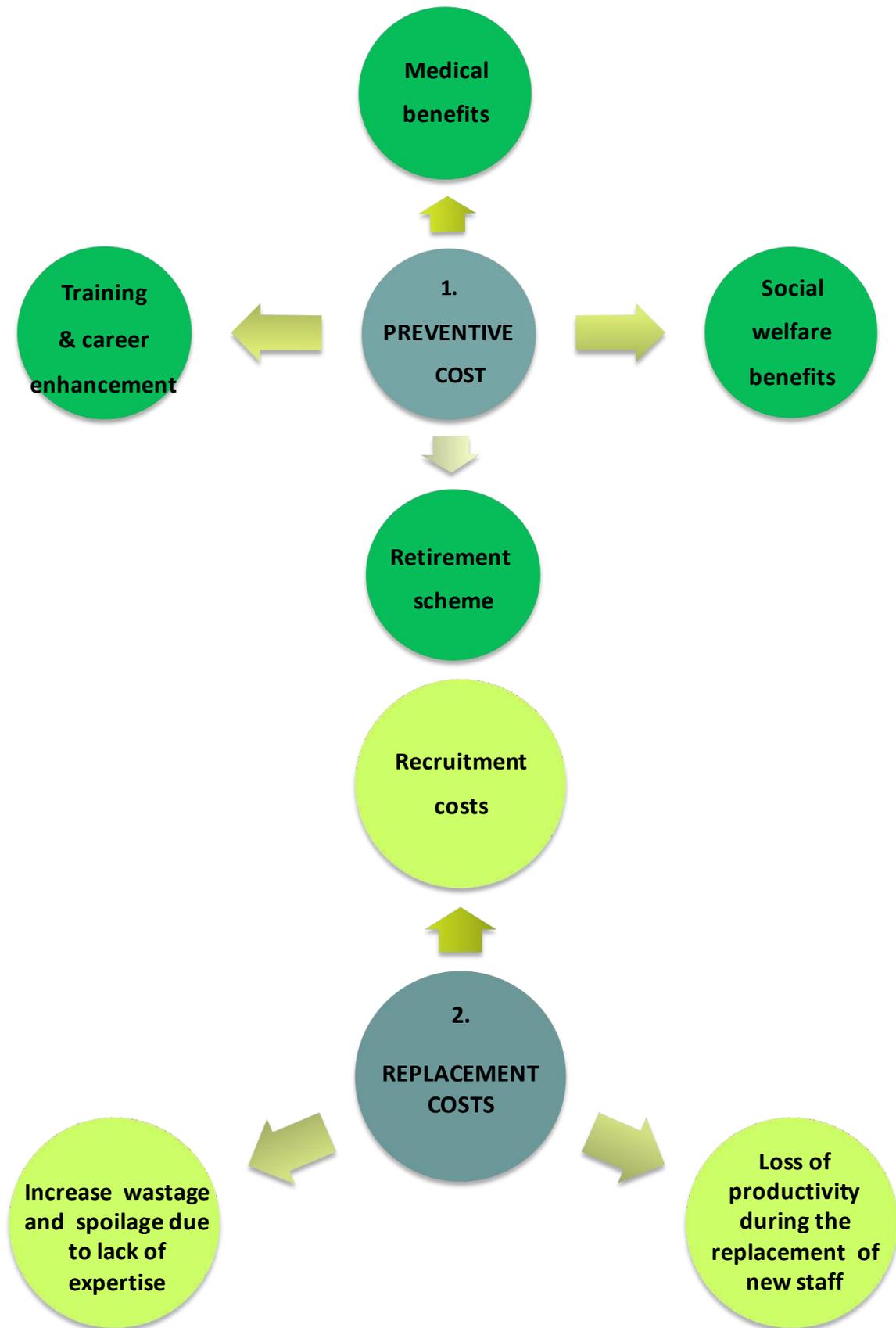
This high labour turnover should be avoided. **High labour turnover is not good** because this indicate that there are something not good with the working environment of the organisation. High turnover rate also may result to high cost for replacing the workers.



REASONS FOR LABOUR TURNOVER



COST OF LABOUR TURNOVER



MEASURING LABOUR TURNOVER

Labour turnover is the rate of employee working and leaving the organization. Labour turnover can be reduced through the following actions:

- Paying the good remuneration
- Offer reasonable working hour and good working conditions
- Create good environment with team members
- Provide training and employment career opportunities

Labour turnover is measured by the following formulas:

$$\text{Average number employed} = \frac{\text{No. of employees at the beginning} + \text{No of employees at the end}}{2}$$

$$\text{Average number of employees leaving who have to be replaced} = \frac{(\text{No. of employees who left} + \text{addition})}{2}$$

$$\text{Labour turnover} = \frac{\text{Average no leaving who have to be replaced} \times 100}{\text{Average number employed}}$$

The following information related to Bank Guarantee Department of Exim Bank for year 2021.

Number of employees at the beginning of the year	22
Additions of employees during the period	3
Number of employees who left during the period	2

$$\begin{aligned} \text{Labour turnover} &= \frac{\text{Number of employees left during a period}}{\text{Average number of employees during the period}} \\ &= \frac{(2+3) / 2}{(22 + 23) / 2} \times 100 \\ &= 11.1\% \end{aligned}$$

TUTORIAL EXERCISE

1. Explain the definition of direct labour cost and indirect labour cost.
2. What are the three categories of remuneration methods?
3. List THREE (3) departments involved in recording labour costs?
4. List THREE (3) types of Individual Bonus Scheme.
5. State TWO (2) causes of labour turnover.
6. A company is proposing to introduce an incentive scheme into its factory. Identify (2) advantages and (2) disadvantages of group bonus schemes.
7. Ding Dong Manufacturing Co. is a well-established company that manufactures children toy for local market. One of the workers, Miss Lily has requested you, the Account Assistant of the company to recalculate her salary. Below is the information related to her job for the last week of January 2021:

Production per week	340 units
Rejected units	30 units
Rate per hour Actual	RM6
hours worked	60 hours
Normal working hours	40 hours

Standard unit per hour is 4 units and she is paid 50% for the time saved. Rejected unit is taken into account for bonus calculation. Overtime is paid double.

Calculate:

- a) Basic wages
- b) Overtime payment
- c) Bonus earned
- d) Total wages
- e) Labour cost per good unit only

8. The following table contains related information of 3 Waterlily Industries workers for the month of December:

	Ahmad	Fahmi	Nazim
Unit produce	420	415	310
Damage unit	0	15	10
Time taken /week	60 hours	55 hours	50 hours
Time standard/week	4% less than time taken	15% more than time taken	10% more than time taken
Rate per hour	RM25	RM22	RM27
Rate per unit	RM25	RM24	RM28

Additional information:

- i. Normal time start from 9 am to 7 pm and the workers work 5 days a week.
- ii. The factory decided to pay the damage units because the raw materials used were not high quality.
- iii. No overtime paid for extra time taken.

Based on the information above, you are required to calculate bonus pay for each worker.

- a) Based on information in question, calculate basic and total pay for each worker.
- b) Calculate labour cost per unit for each worker

9. Al-Mashoor Sdn Bhd currently remunerates its factory workers on a time basis. As it is experiencing a high labour turnover, it is now considering the introduction of alternative methods of remuneration. The following information relates to two employees for one week:

	Hazim	Hamim
Hours worked	65	52
Rate of pay per hour	RM6	RM7
Units completed	350	420

The time allowed for each unit of output is 10 minutes. For the purposes of piecework calculations, each unit is valued at RM1.70. Under the time basis, overtime is allowed and overtime rate is time and half. Normal working hours per week is 48 hours.

You are required to calculate the total wages of Faisal and Shariff based on:

- a) Hourly basis
- b) Piecework rates
- c) Premium overtime
- d) Bonus payment

10. Haseena works in a factory. Her duty is to pack bottled drinks into plastic container. The factory operates a differential piecework scheme as follows for good bottles packed: -

Up to 100 bottles a day	16 cent/unit
101 – 150 bottles a day	19 cent/unit
151 – 200 bottles a day	23 cent/unit
201 bottles and above	28 cent/unit

Following are the results achieved by Haseena for the past 3 days:

	<u>Bottles handled</u>	<u>Broken bottles</u>
Monday	165	18
Tuesday	180	22
Wednesday	220	15

Calculate the gross wages for Haseena for each 3 days and in total.

11. Calculate the labour turnover for the department below:

	Department Q
No. of employee at the beginning of the period	72
The addition of employee during the period	14
No of employees leaving during the period	11

12. Suria worked at Production Department for Syarikat Perkilangan Maju Jaya Sdn Bhd. Which produced handmade 'Batik' at Balok. In June, she completed 105 units of handmade 'Batik' and the detail about the production is as below:

Actual working hour	8 hours a day
Working day	Sunday to Thursday
Rate per hour	RM10.00
Standard time to complete 3 unit of handmade 'Batik'	5 hours

Additional information:

- i. There are 4 weeks in a month of June 2021. The company is implementing the double paid for bonus scheme.
- ii. Employee contribution for Employee Provident Fund Malaysia (EPF) is 11%.
- iii. Suria's contribution to Perkeso in June 2021 is RM11.55.
- iv. Suria is not entitled for income tax deduction.

You are required to calculate:

- a) The gross salary for Suria during the period.
- b) The net salary payable to Suria for June 2021.



OVERHEAD



OVERHEAD

INTRODUCTION TO OVERHEAD

Overheads are **indirect costs** that cannot be directly charged to unit of production such as indirect labour and indirect labour. It involves all manufacturing costs that are not direct material and direct labour. **Overhead costs behavior** can be fixed and variable in nature.

The overhead costs can be classified into:

Production overheads / manufacturing overhead/ factory overhead

This are cost related to the production of the products of the business. Includes all indirect costs incurred to transfer raw materials into finished product in the production department such as gloves used by production workers, supervisors, rental of factory, power of the machinery, electricity (factory area), building insurance (factory area) etc.

Non-production overheads are costs that is not directly related to the production of costs unit or products. They can be classified as selling overheads, distribution overheads, administration overheads & finance overheads for example the manager salary, cost accounts salary, goodwill paid based on unit sold etc.

WATCH this video



<https://youtu.be/8UwSj6FBASmM>



In this book, we will introduce 2 methods to calculate overhead:

- Traditional method
- Activity-Based- Costing Method (ABC)

TRADITIONAL METHOD

To calculate cost per unit of a product, all direct cost (direct material, direct labour, direct expenses) plus **the overhead cost** must to be considered so that the product cost is not understated. In the traditional method, the overhead cost is assigned to cost unit based on these steps:

1.Primary distribution

- a) Allocation of overhead to cost center / departments
- b) Apportionment of overhead to cost center / departments

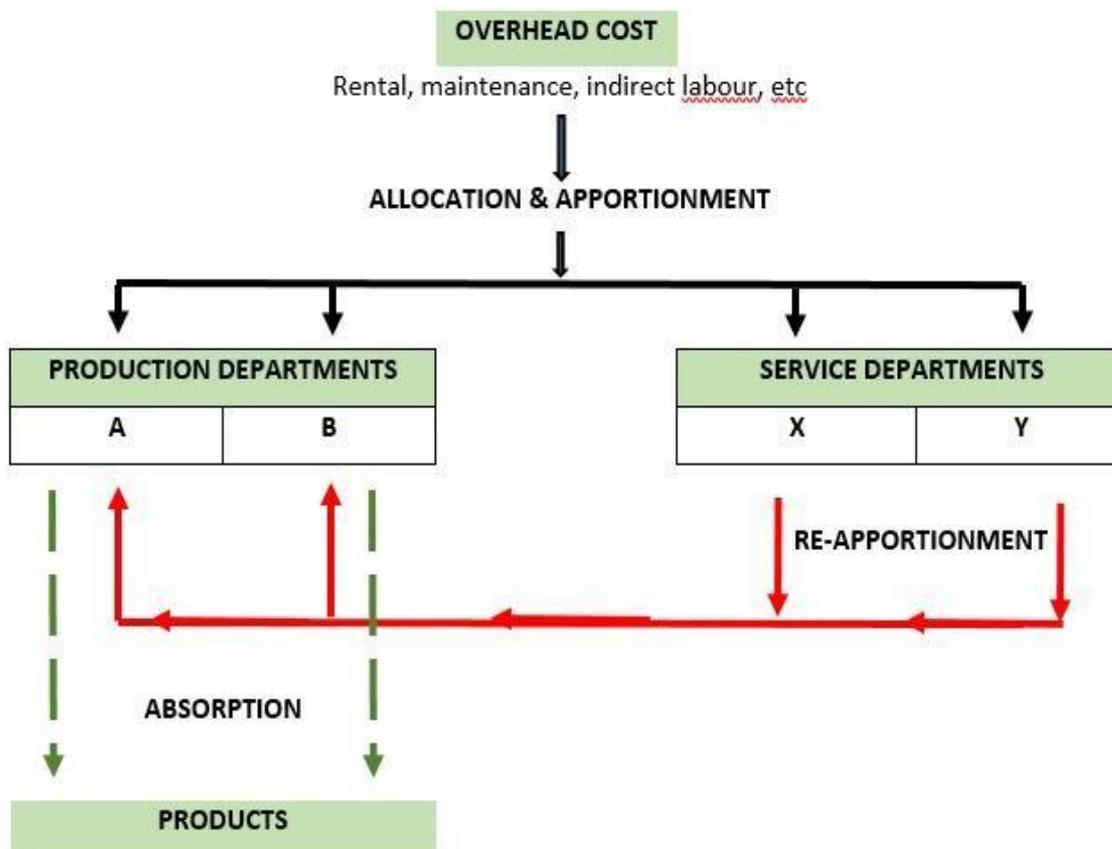
2. Secondary distribution

- a) Re-apportionment of overhead cost from service departments to production departments. Two methods of re-apportionment:
- Direct
 - Continuous

3. Absorption

- Calculation of overhead absorption rate (OAR) of each department.
- Over and under absorption of overhead

Below is the flow to show how overhead cost is apportioned to cost centre (departments), then the cost from the service departments is re-apportioned to the production departments and lastly the cost from production departments is absorbed to the products.



The flow of apportionment, re-apportionment and absorption of overhead cost.

(Source : Prabir Das, Oxford; Cost Accounting 5th edition)

PRIMARY DISTRIBUTION

ALLOCATION AND APPORTIONMENT OF OVERHEADS

CIMA defines allocation as 'the allotment of the whole item of cost to the cost centres or cost units'. It is the process of assigning indirect cost to cost centres (can be the department if cost is calculated for a department or it can also be the product or services offered).

Apportionment involved overhead cost that are shared by more than one cost centre, so the cost will to be allocated to different departments. Apportionment of overhead is done base on the **most suitable basis**.

EXAMPLE OF BASIS THAT CAN BE USED:

Overheads	Basis of apportionment
Rental, electricity cost of the building, depreciation of building, building maintenance and cleaning	Floor area
Indirect labour costs, storekeeping	Labour hours
Machine maintenance costs	Machine hours
Depreciation of machinery	Cost of Assets
Power for machinery	Kilowatt hours/ horse power of machine
Canteen expenses, supervisor salary	Number of employees

SECONDARY DISTRIBUTION

The secondary distribution is the next step to prepare the overhead analysis sheet. This is necessary because we must remember that only the production departments (cost centre) are directly involved to manufacture products (cost units).

Cost of service department will be re-apportioned to the production department based on the suitable basis or percentage given in the question. There are 2 ways to re-apportionment either direct or continuous distribution.

•**Direct method** assumes that the service department only provide services to the production departments only. The cost of service department is only re-apportion to the production department.

- **Continuous method** assumes that the service department provide services to production departments as well as other service departments. The cost of service cost department is re-portion to the production department and also to the other service department that uses the services provided.

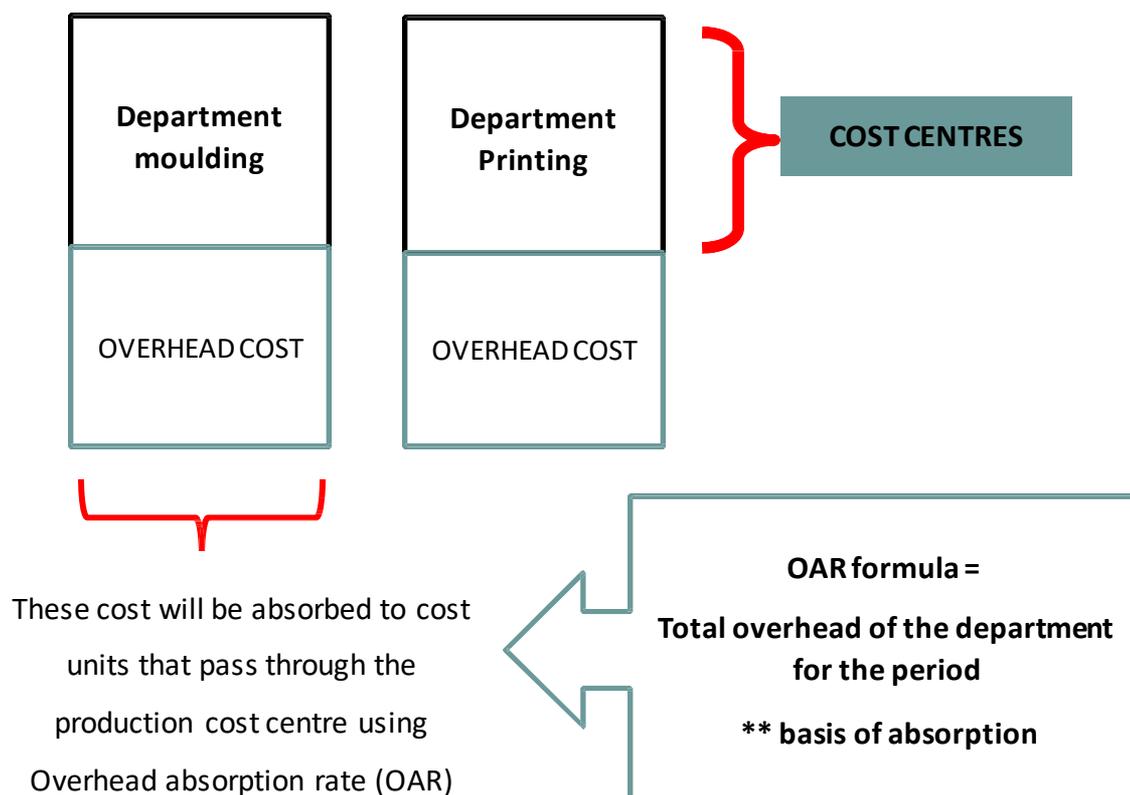
ABSORPTION OF OVERHEAD

CIMA defined overhead absorption as “ the allotment of overhead to cost units by means of rate separately calculated for each cost centre”. The rate that is used to absorbed overhead for each department to the cost unit is known as overhead absorption rate (OAR).

The basis of absorption is obtained by referring to:

- 1.Data from previous period or historical data
- 2.Anticipated volume or unit produced
- 3.Normal volume of output or capacity

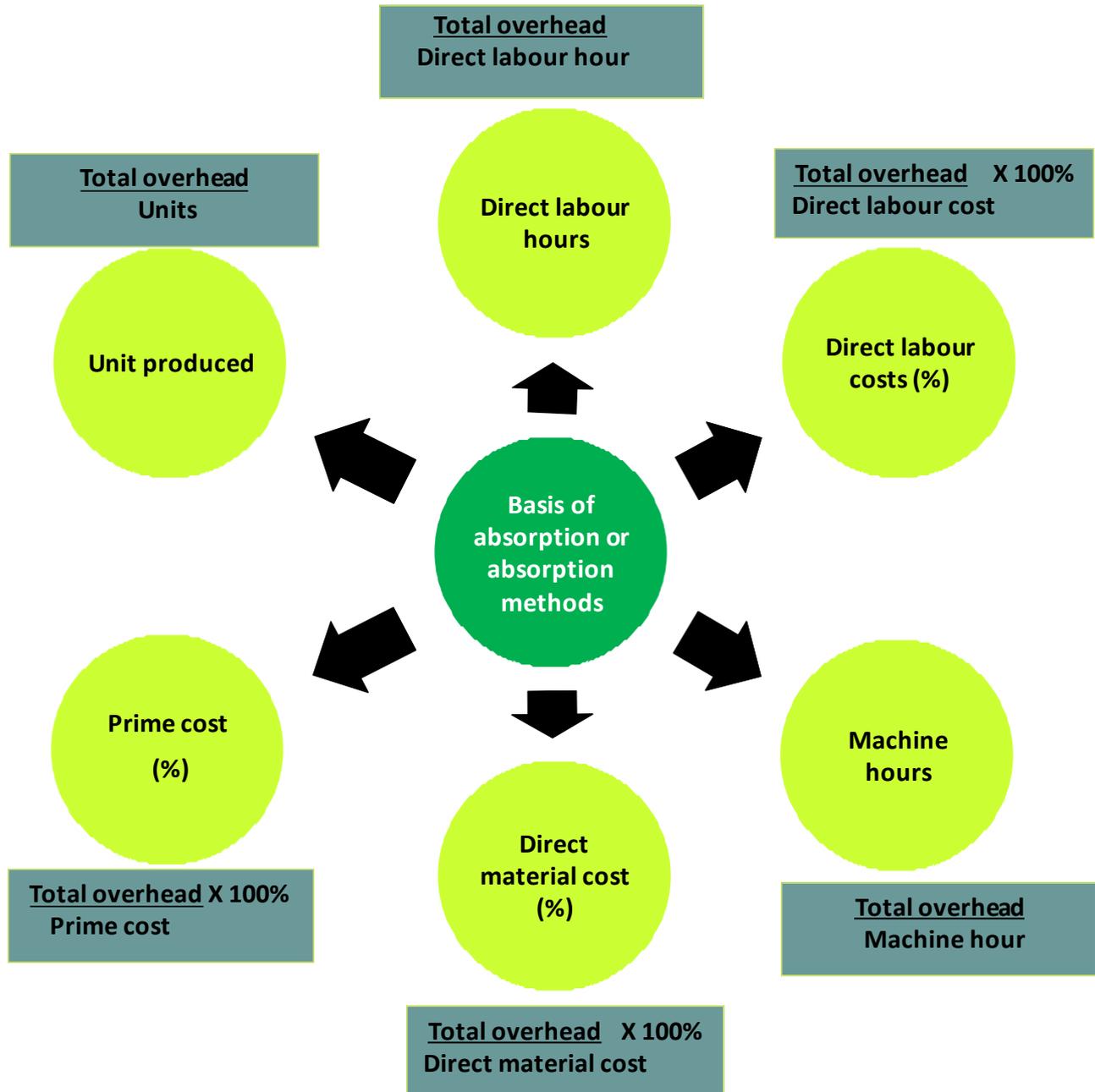
The illustration on absorption of overhead:



BASIS OF ABSORPTION

Selection of the absorption basis should be based on activities which corresponds most closely with the total overhead costs of each department.

Some of the basis that can be used is shown below.



PREDETERMINED OVERHEAD RATES (POAR)

The overhead absorption rate has been based on **actual overheads cost** for a costing period of the products. This method is however, not satisfactory for costing purposes because the actual overhead cost of the job is not known until all costs incurred for the job are obtained at the end of the period. To wait until the end of the period and then to absorb overhead based on actual cost will be inconvenient and too late, especially for the business to determine the selling price and for planning and control.

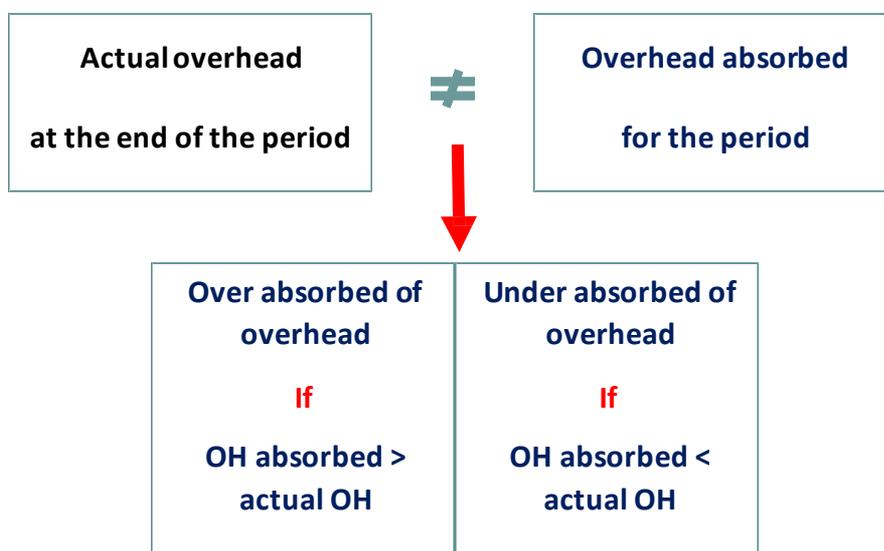
To overcome that the company use the **predetermined overhead rate (POAR)** that enables product costs to be calculated as soon as production is completed.

The formula for calculating POAR is as below:

$$\text{POAR formula} = \frac{\text{Budgeted overhead of the cost centre for the period}}{\text{budgeted basis of absorption for the period}}$$

UNDER OR OVER ABSORPTION OF OVERHEAD

Since company using predetermined rates (POAR) to absorbed overhead, the amount absorbed is likely to be different from that incurred (actual overhead). The difference between these two amounts is called **under or over absorbed overhead**.

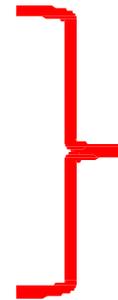


Example 1 :

WUV Sdn Bhd is a company producing plastic containers. It has two production departments, moulding and printing, and two service departments, engineering and security department. The engineering and security department provide services to the productions department. The budgeted overhead costs for Sdn Bhd for the month of January 2022 are as follows:

INFORMATION FOR COST APPORTIONMENT

Overhead cost	RM
Rental	40,000
Utilities (electricity and water)	10,000
Maintenance of machine	5,000
Depreciation of the building	2,000



(These cost is shared by all departments, should be apportioned to each department)

Departments	RM
Moulding	22,000
Printing	25,000
Engineering	10,000
Security	5,000



INFORMATION FOR COST ALLOCATION

The following related information is also available:

	Total	Moulding	Printing	Engineering	Security
Floor area	40,000	15,000	12,000	8,000	5,000
Machine hours	100,000	60,000	40,000	-	-

BASIS FOR APPORTIONMENT

(students will have to identify the most suitable basis for each overhead cost if the information is not mention in the question)

The cost of service departments are allocated to the other departments on a percentage basis as follows

	Moulding	Printing	Engineering	Security
Engineering	55	40	-	5
Security	40	40	20	-



INFORMATION FOR RE-APPORTIONMENT

You are required to :

- a) Prepare the overhead analysis sheet for WUV Sdn Bhd for January 2022.
- b) Calculate the overhead absorption rate for department Moulding and Printing.
- c) Calculate the overhead to be absorbed to the plastic container based on the information below:

Department	Machine hour used for a unit of container
Moulding	2 hours
Printing	1 hour

- d) Calculate the over/ under overhead absorbed of overhead for WUV Sdn Bhd based on the below information:

Plastic unit produced and completed in Jan 2022	10,000 units
Actual overhead cost	RM33,000

Answer example 1(a):

Statement of overhead

			PRODUCTION DEPARTMENTS		SERVICE DEPARTMENTS	
Element	Basis	Total (RM)	Moulding (RM)	Printing (RM)	Engineering (RM)	Security (RM)
Indirect labour	Allocation	62,000	22,000	25,000	10,000	5,000
Rental	Floor area	40,000	15/40 x 40000 = 15000	12/40 x 40000 = 12000	8/40 x 40000 = 8000	5/40 x 40000 = 5000
Utilities (electricity and water)	Floor area	10,000	15/40 x 10000 = 3750	12/40 x 10000 = 3000	8/40 x 10000 = 2000	5/40 x 10000 = 1250
Maintenance of machine	Machine hours	5,000	60/100 x 5000 = 3,000	40/100 x 5000 = 2,000		
Depreciation building	Floor area	2,000	15/40 x 2000 = 750	12/40 x 2000 = 600	8/40 x 2000 = 400	5/40 x 2000 = 250
Total		119,000	44,500	42,600	20,400	11,500

Not finished yet, there are still cost from the service departments that need to be re- apportioned to production departments. That is the secondary distribution.

Answer example 1(b):

Element	Moulding (RM)	Printing (RM)
Total overhead	62,170	56,830
Overhead absorption rate		
<u>Total overhead</u> Machine hour	<u>RM 62,170</u> 60,000 hours = RM1.04 per machine hour	<u>RM 56,830</u> 40,000 hours = RM1.42 per machine hour

The basis that is most suitable for this question is **machine hours** as it is the only basis given in the question. Later, this rate is used to absorbed overhead cost to the unit product

Answer example 1(c):

Referring to the question in Example 1, below is the amount of overhead cost absorbed to the plastic container.

Formula:

Overheads absorbed = POAR x Actual hours



The activity should be based on **actual** activities for the period such as actual labour hours, actual units, actual machine hours, actual material cost and etc

Department	POAR	Overhead cost charged to each unit of container
Formula:	$\frac{\text{Total overhead}}{\text{Machine hour}}$	OAR X actual machine hour used
Moulding	RM1.04/machine hour	RM1.04 X 2 hours = RM2.08
Printing	RM1.42/machine hour	RM1.42 X 1 hours = RM1.42

So the cost of (1 unit) of container:

<u>RM</u>	
Material	XX
Labour	XX
Overhead - M	2.08
- P	<u>1.42</u>
	<u>XXX</u>

Answer example 1(d):

	Workings
Overhead absorbed	10,000 units X (RM2.08 + 1.42) = RM35,000
Actual overhead cost	RM33,000
Over absorbed of overhead	RM2,000

ACTIVITY BASED COSTING (ABC)

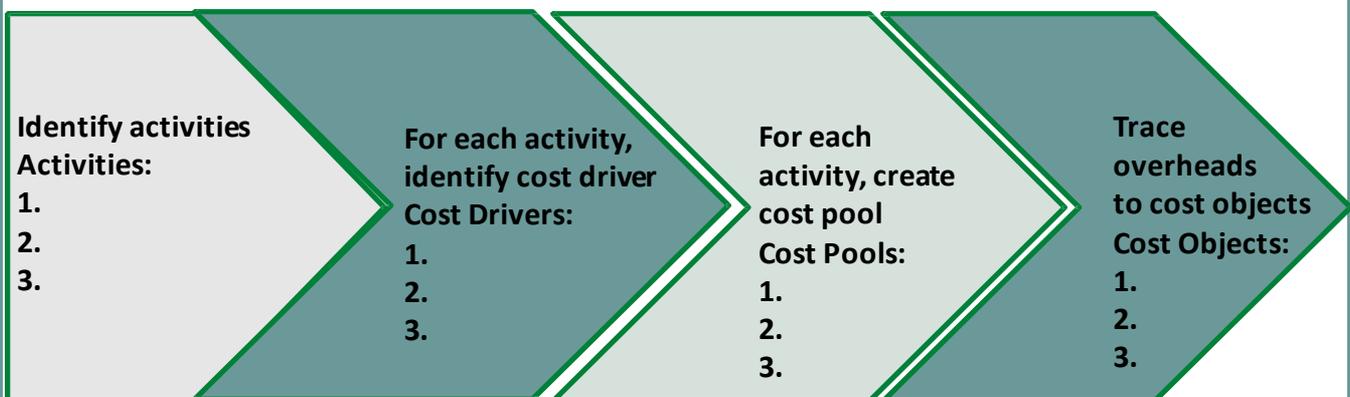
The traditional overhead cost accounting were designed for production that was labour intensive, material intensive or produced a narrow range of products. Manufacturing process nowadays is becoming more complex and using high-end technology. Activity based costing (ABC) is a costing method introduced by Robert Kaplan and Robin Cooper in 1988 due to some weaknesses in traditional costing.

In ABC costing, the cost is assigned to activities involve in making products as a basis for absorbing the overheads. This method assigned overhead to activities that drive the cost which is later charged to units of production.

The assumption of ABC is that to manufacture a product involve activities, and activities cause cost, therefore activity is related to product costs.

Activities here referring to processes, functions, tasks that are carried out, unit of work over a certain period of time to design, produce, market and distribute products. Example of activities include machine hours, labour hours, production run, order processing, quality assurance, set-up of machine, packaging, production and etc. In order for these activities to take place, they will need resources such as materials, time, services and information.

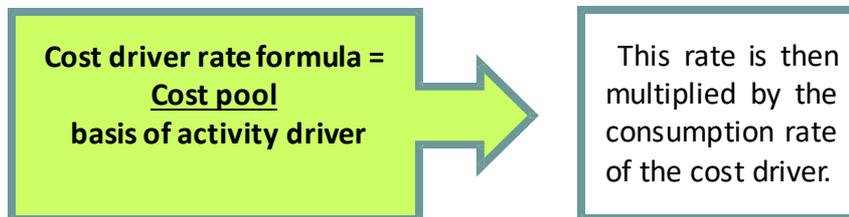
The flow chart below shows the process of ABC in a company.



The flow of Activity Based Costing System in a company.
(Source : Prabir Das, Oxford; Cost Accounting 5th edition)

COST DRIVERS

A cost driver is any activity **that causes a cost to happened**. It can be a unit of output, a group of product (batch), a product or a facility. Some of the example of cost driver:



COST POOLS

Activities driven by the same cost driver **are put in the same cost pool**. Overhead costs related to each set of activities are collected and placed in a single pool.

Below is some examples of cost pools and related cost drivers.

Cost pool	Cost driver		Cost pool	Cost driver
Production control cost	Number of production runs		Purchasing cost	Number of orders
Quality control cost	Number of checks		Machine-related costs	Machine hours
Sales cost	Number of sales invoices		Product shipping cost	Ongoing shipments
Machine setting cost	Number of set-ups		Rework cost	Number of reword orders

ABC costing is expensive to implement, but it is suitable and gives better cost information in an organization:

- where the overhead cost amount is huge
- where overheads are driven by variety of different activities
- produces many different products that involve different levels of activities in the manufacturing process
- where drivers can be identified readily

Example 2:

Yanboo Sdn Bhd produces in batches two types of quality shoes, ShoeA and ShoeB. The following information is available:

	ShoeA	ShoeB	Total
Number of units made	40,000	60,000	100,000
Material purchasing	16,000	8,000	24,000
Issues from the warehouse	300	700	1,000
Machine setting	80	40	120
Direct cost	96,000	18,000	114,000
Machine hours	35,000	45,000	80,000

The following costs were incurred in producing the shoes.

	RM
Purchasing cost	140,000
Warehouse cost	10,000
Machine setting cost	78,000

The business used the basis of direct machine hours to charge overheads. In the year 2021, the budgeted direct machine hours are 200,000 hours. You are to:

- Calculate the appropriate absorption rates using traditional and ABC methods.
- What is the product cost per unit under both methods.

Answer example 2(a):

Traditional

$$\begin{aligned} \text{POAR} &= \frac{\text{Budgeted overhead}}{\text{budgeted machine hours}} = \frac{\text{RM228,000}}{200,000} \\ &= \text{RM1.14 / machine hour} \end{aligned}$$

Activity	Cost (RM)	Cost drivers	Cost pool rate
Purchasing cost	140,000	Material purchasing (24,000)	$\frac{140,000}{24,000}$ = RM5.83 / material purchase
Warehouse cost	10,000	Issues from the warehouse (1,000)	$\frac{10,000}{1,000}$ = RM10 / issues
Machine setting cost	78,000	Machine setting (120)	$\frac{78,000}{120}$ = RM650 / machine setting

Answer example 2(b):

	Traditional	
	ShoeA	ShoeB
Direct cost	96,000	18,000
Overhead cost	35,000 x RM1.14 = RM39,900	45,000 X RM1.14 = 51,300
TOTAL COST	RM135,900	RM69,300
Cost per unit	$\frac{\text{RM135,900}}{40,000}$ = RM 3.40	$\frac{\text{RM69,300}}{60,000}$ = RM1.16
	ABC	
	ShoeA	ShoeB
Direct cost	RM96,000	RM18,000
Overhead cost:		
Purchasing cost	RM5.83 X 16,000 = RM93,280	RM5.83 X 8,000 = RM46,640
Warehouse cost	RM10 X 300 = RM3,000	RM10 X 700 = RM7,000
Machine setting cost	RM650 X 80 = RM52,000	RM650 X 40 = RM26,000
TOTAL COST	RM148,280	RM79,640
Cost per unit	$\frac{\text{RM148,280}}{40,000}$ = RM 3.70	$\frac{\text{RM79,640}}{60,000}$ = RM1.33

ADVANTAGES, LIMITATIONS AND BENEFITS OF IMPLEMENTING ABC SYSTEM.

ADVANTAGES

Improve in pricing and decision making because the product costs are calculated more accurate.

The cost pools are identified and management will better control over the item.

Provides better incentive to behaviors.

A better understanding of costs not driven by volume.

Approved method of valuing stock accordance with accounting standards.

LIMITATIONS

Classifications of overheads is subjective and difficult because the cost pools created by decision makers.

The segregation and assignment of overheads to cost pools to be inaccurate.

Costly to the company to change their routine using ABC system.

Impossible to allocate all overheads to specific activities.

BENEFITS

Increase the number of cost pools used to accumulate overhead costs.

Improvement in controls over the costs.

Helps identify and control the cost of unused capacity.

Better profitability measures due to more accurate costs.

TUTORIAL EXERCISE

1. Define overhead.
2. Pick from the basis below, the most suitable basis for the overhead cost.

Machine hours	No of employees	Floor area (square foot)	Horse power of machine	Cost of asset
No	Element of cost			Basis
1	Rental of building			
2	Depreciation of factory machinery			
3	Salary of maintenance personnel in production department			
4	Maintenance of machinery			
5	Power of machinery			
6	Electricity and water			
7	Building insurance			
8	Canteen costs			
9	Insurance of workers			
10	Cleaning and janitorial cost			
11	Supervisors salary in production line			
12	Depreciation of computers used in production			

3. EcoMoss Company have 2 production department E1 dan E2 and 2 service department F1 dan F2. Information given is as below:

	Total	Dept E1	Dept E2	Dept F1	Dept F2
Indirect factory cost (RM)	26,160	12,500	9,600	2,660	1,400
Machine insurance cost (RM)	12,000				
Electricity and water cost (RM)	10,000				
Floor Area (square meter)	4000	1500	1500	600	400
Machine value (RM)	60,000	40,000	20,000		

The reapportionment of service department overhead will be as follows:

	Dept E1	Dept E2	Dept F1	Dept F2
F1	50%	45%	-	5%
F2	60%	35%	5%	-

- a) Prepare overhead schedule to show the reapportionment of the service department using direct method.
 - b) Prepare overhead schedule to show the reapportionment of the service department using continuous method.
4. The information below is extracted from the records of Gurl Power for the year 2021.

	Estimated	Actual
Production overheads	RM 85,000	RM 82,605
Machine hours	750,500 hours	700,210 hours
Direct labour hours	100,000 hours	100,100 hours
Direct labour cost	RM650,000	RM600,000
Direct material cost	RM1,200,000	RM1,215,000
Units	150,000 units	175,000 units

Based on the information, calculate the pre-determined overhead absorption rate based on (round to 2 decimal points):

- a) Direct labour hours
- b) Direct labour cost
- c) Direct material cost
- d) Direct machine hours
- e) Prime cost
- f) Units

5. The calculated overhead rate is RM11. The actual overheads for the machining cost center were RM82,681 and 7,328 machine hours were worked. What is the amount of under or over absorbed overheads?
6. AZQ Sdn Bhd operates 2 production departments (A and B) and 1 service Department (S). Below is the information gathered from the records of Nazlun for May 2022. Department A production processes rely heavily on machine, while Department B processes uses manpower intensively.

	Total ('000)	Dept S ('000)	Dept A ('000)	Dept B ('000)
Machine hours	500	-	500	-
Labour hours	850	-	-	845
Unit produced	2,500	-	1,000	1,500
Area (Square feet)	50	4	21	25
<u>Direct expenses:</u>				
Direct material	11,400	1,550	4,500	5,350
Direct labour	11,450	1,360	4,440	5,650
<u>Indirect expenses:</u>				
Indirect material	3,845	925	1,200	1,720
Indirect labour	7,090	1,150	3,800	2,140
<u>Other factory expenses:</u>				
Factory rent	1,300			
Machine maintenance	2,180			
Electricity and water	645			
Factory cleaning contract	305			

The service department cost will be re-apportion to production department based on unit produced. You are required to:

- Prepare the cost overhead statement for AZQ in May 2022.
- Calculate the overhead absorption rate for May 2022.

7. Aneka Deco is a business providing interior decorating services. It uses absorption costing method to absorb overhead to job. Manufacturing overhead is applied based on the number of decorator hours incurred. Below is the information extracted from the book of the company.

Budgeted overhead	RM680,000
Actual overhead	RM720,000
Budgeted decorator hours	27,200 hours
Actual decorator hours	28,000 hours

You are required to:

- Calculate the predetermined overhead rate.
 - Calculate the overhead absorbed.
 - Determine whether the overhead was under/over absorbed of overhead and by how much.
8. True Blue Hotel has three (3) cost centres: Room and Restaurant deal directly with customers whilst Maintenance is an internal service cost centre.

The following overhead details have been estimated for the next period:

	Room	Restaurant	Maintenance	Total
<u>Overhead costs (RM) :</u>				
Indirect expenses	32,800	46,040	18,500	97,340
Insurance on equipment				12,000
Air-conditioning & lighting				18,500
Depreciation on equipment				10,500
				138,340
<u>Other data :</u>				
Floor area (m ²)	2,500	2,000	500	5,000
Value of equipment (RM)	337,500	303,750	33,750	675,000

In the period it is estimated that there will be 4,000 guest-nights and 10,000 meals served. Maintenance works 20 % for Restaurant and 80% for Guest Room.

Required:

- a) Prepare an overhead analysis sheet for True Blue Hotel showing clearly allocations and apportionments to each cost centre.
- b) Calculate the appropriate overhead absorption rates for Room and Restaurant. (*round up your figures to two decimal points*)
- c) Calculate the under-/over-absorption of overheads if actual results were as follows:

Room: 3,050 guest-nights with overheads of RM54,600
 Restaurant: 9,700 meals with overheads of RM59,700

- 9. AOQ company manufactures two products, Superior and Extra, and applies overhead on the basis of machine hours. Anticipated overhead and machine hours for the upcoming accounting period are RM2,000,000 and 25,000 hours, respectively.

Information about the company's products follows.

	<u>Superior</u>	<u>Extra</u>
Estimated production volume:	3,000 units	4,000 units
Direct materials cost:	RM30 per unit	RM40 per unit
Direct labour cost:	RM95 per unit	RM115 per unit
Machine hour per unit:	3 hours at RM15 per hour	4 hours at RM15 per hour

AOQ company overhead of RM2,000,000 can be identified with three major activities:

Activities	Cost	Cost driver
Order processing	RM250,000	number of orders processed
Machine processing	RM1,200,000	machine hours worked
Product inspection	RM150,000	inspection hours

Data relevant to these activities follow.

	Orders Processed	Machine Hours	Worked Inspection Hours
Superior	320	16,000	4,000
Extra	180	24,000	6,000
Total	500	40,000	10,000

Required:

- a) Calculate the overhead absorption rate if the company used traditional costing and applied overhead solely on the basis of machine hours?
- b) How much overhead would be applied to **ONE (1)** unit of Superior and Extra?
- c) Calculate the cost per unit for Superior and Extra, if the company used Activity Based Costing to apply overhead?

10. Company JCY has 2 fixed priced contracts for different clients. The company has enough capacity for both contracts but is uncertain whether they will be profitable. Data as follows:

Customer	MUDA	TUA
Component type	A666	B777
Contract value (RM)	28,000	110,000
Contract quantity	1,000 unit	2,000 unit
Material cost /unit	RM20	RM25
Moulding time /batch	5.5 hours	8 hours
Batch size	100 units	50 units

Activity	Cost driver	Volume / year	Cost pool
Moulding	Moulding hours	2,000	RM150,000
Inspection	Batches	150	RM75,000
Production management	Contracts	20	RM125,000

Calculate the activity-based costs and profits for each contract.

11. The Gigi Company produces 3 products, X, Y and Z, all made from the same material. Until now, it has used traditional absorption costing to allocate overheads to its products. The company is now considering an activity-based costing system in the hope that it will improve profitability. Information for the three products for the last year is as follows:

	X	Y	Z
Production and sales volumes (units)	15,000	12,000	18,000
Selling price per unit	RM7.50	RM12	RM13
Raw material usage (kg) per unit	2	3	4
Direct labour hours per unit	0.1	0.15	0.2

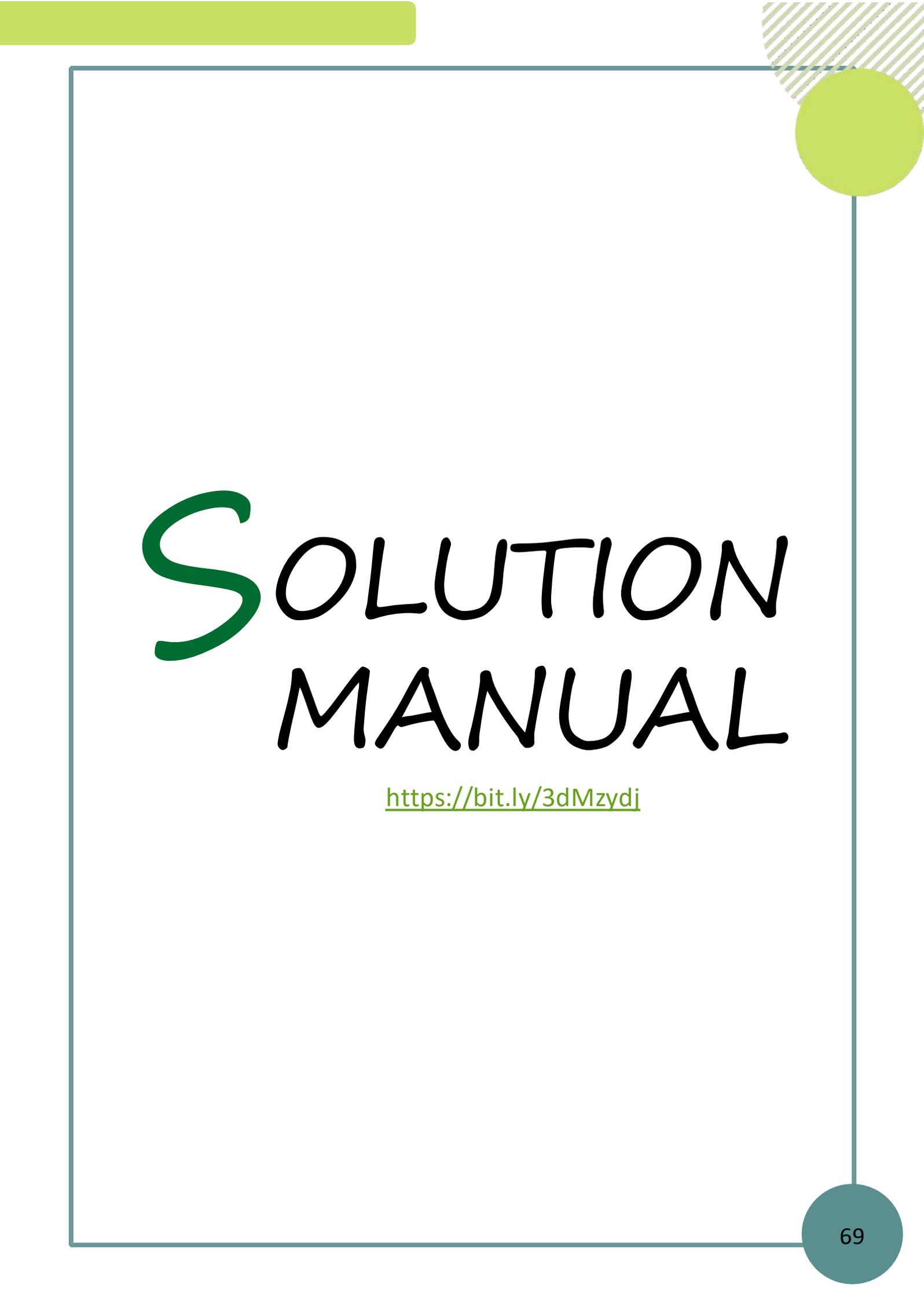
	X	Y	Z
Machine hours per unit	0.5	0.7	0.9
Number of productions runs per annum	16	12	8
Number of purchase orders per annum	24	28	42
Number of deliveries to retailers per annum	48	30	62

The price for raw materials remained constant throughout the year at RM1.20 per kg. similarly, the direct labour cost for the whole workforce was RM14.80 per hour. The annual overhead costs were as follows:

	RM
Machine set up costs	26,550
Machine running costs	66,400
Procurement costs	48,000
Delivery costs	54,320

You are required to:

- Calculate the overhead absorption rate under traditional absorption costing, using direct labour hours as the basis for apportionment.
- Cost per unit under full absorption costing
- Calculate the full cost per unit for products X, Y and Z under ABC costing as the basis for apportionment.



SOLUTION MANUAL

<https://bit.ly/3dMzydj>

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