

ACCG200 - Fundamentals of Management Accounting

LECTURE 1: INTRODUCTION

What is Management Accounting?

- Defined as: ... the process and techniques that focus on **the effective and efficient use of organisational resources to support managers** in their tasks of enhancing both customer value and shareholder value

Cost concepts

- What are costs?
 - Resources given up to achieve a particular objective
 - Measured in monetary terms
- What is a cost object?
 - An item for which management wants a *separate measure of costs*
- What is a cost driver?
 - A factor or activity that causes a cost to be incurred
- What is the level of activity?
 - The level of work performed in the org (e.g. hours worked, units produced)

Cost classifications

- Diff cost classifications are used for diff purposes
- Same cost can be classified in no. of ways depending on intended use of cost info

Basis of classifications	Cost classifications
1. Behaviour	Variable and fixed costs
2. Traceability	Direct and indirect costs
3. Timing of expense	Product and period costs
4. Manufacturing costs	Direct material, direct labour and manufacturing overhead
5. Value chain	Upstream, Manufacturing and downstream costs
6. Controllability	Controllable and uncontrollable costs

1. Behaviour

- Variable cost
 - Changes in *total* in proportion to changes in level of activity
 - E.g. cost of electricity used to manufacture a product
- Fixed cost
 - Remain unchanged in total despite changes in the level of activity
 - E.g. rent paid for factory remains unchanged no matter how many units we produce
- Lecture Example 1**
 - ABC Ltd manufactures wooden toys

Activity level (No. of toys produced)	Variable cost per toy	Total variable cost	Annual total fixed costs	Fixed cost per toy
1	\$12	\$12	\$10000	\$10000
1000	\$12	\$12000	\$10000	\$10
2000	\$12	\$24000	\$10000	\$5

2. Traceability

- **Direct cost**
 - *Can be* directly identified with or traced or linked to a cost object in an economic manner
- **Indirect cost**
 - *Cannot be* identified with or traced or linked to a cost object in an economic manner
- Example: Assume an office desk is a cost object, then:
 - Cost of wood: Direct or Indirect? **Direct**
 - Cost of glue: Direct or Indirect? **Indirect**
 - Salary of the production supervisor: Direct or Indirect? **Indirect**

3. Timing of the expense

- **Product cost**
 - i. Cost assigned to g/s that were manufactured or purchased for resale
 - ii. Regarded as part of the asset / inventory until goods are sold
- **Period cost**
 - Costs expensed in the accounting period in which they are incurred rather than being attached to units purchased or produced
 - E.g. salaries of sales staff, advertising expense, depreciation of office equipment

4. Manufacturing / product costs

- **Direct material**
 - Materials that are a part of the final product
 - Can be directly traced and linked to product in an economic manner
- **Direct Labour**
 - All manufacturing labour that can be directly traced or linked to cost object
 - E.g. wages paid to production workers, workers' compensation insurance and superannuation contributions
- **Manufacturing overhead (indirect manufacturing costs)**
 - All manufacturing costs other than direct material and direct labour
 - E.g. cost of indirect material, indirect labour, depreciation, insurance on factory equipment
- **Lecture example 2**
 - For each example of the costs listed below, indicate whether it is direct material (DM), direct labour (DL), manufacturing overhead (MOH) or period cost

	Classifications
Flour used in making pizza	DM
Salary of production supervisor	MOH
Wages of production workers	DL
Depreciation on factory building	MOH
Depreciation on head office building	Period cost
Marketing cost	Period cost

- **Manufacturing Overhead**
 - Manufacturing overhead costs also usually include *overtime premium* and *the cost of idle time*
 - **Overtime premium:** extra wages paid to an employee who works beyond normal working hours
 - E.g. John's regular wage = \$30/hr; and overtime wage = \$45/hr. Assume John worked an additional hour and was paid \$45, then the \$45 can be classified into:
 - *DL*: \$30
 - *MOH (overtime premium)*: \$15

- **Idle time:** the cost of employees' non-productive, arising from events such as equipment breakdowns or new setups of production runs
 - E.g. John's regular wage = \$30/hr. Assume John worked 8 hrs, including 1-hour idle time due to machine breakdown. *Then the cost of idle time: \$30*

○ **Lecture example 3**

- Highlander Cutlery manufacturers kitchen knives. One of the employees, whose job is to cut out wooden knife handles, worked 48 hours during a week in January, including 1 hr idle time due to power outage. The employee earns \$10 per hour for a 38-hour week.

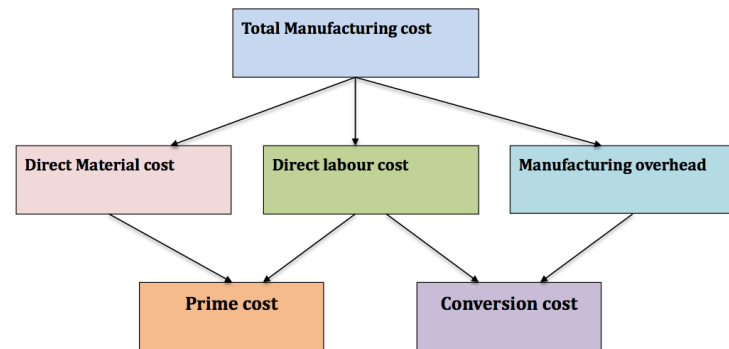
For additional hours, the employee is paid an overtime rate of \$15 per hour

- Calculate:
 - A) The total cost of the employee's wages during the week
 - B) Determine the portion of this cost to be classified in DL, MOH (idle time), MOH (overtime premium)
- Solutions
 - A) Total wages

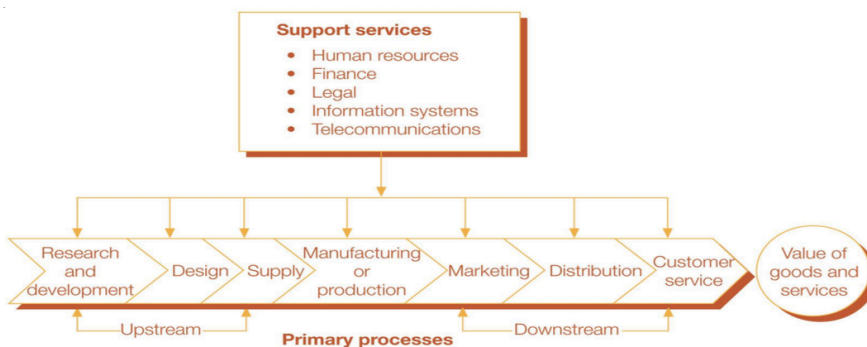
$$= \$10 \times 38 + \$15 \times (48 - 38)$$

$$= \$380 + \$150$$

$$= \$530$$
 - B) Direct Labour = $(48 - 1) \times \$10 = \470
 MOH (overtime premium) = $(48 - 38) \times (\$15 - \$10)$
 $= 10 \text{ hrs} \times \5
 $= \$50$
 MOH (idle time) = \$10



5. **Value Chain**



○ **Lecture example 4**

- Ivory Company produces and sells ice-cream. Classify the costs listed below

Cost	Classifications
Cost of cream used to make the ice-cream	Manufacturing - DM
Electricity used to store finished ice-cream products	Distribution
Cost of fuel for delivery trucks	Distribution
Wages paid to staff who make the ice-cream	Manufacturing - DL
Wages paid to staff who develop recipes for new ice-cream flavours	R & D
Cost of advertising in the food trade magazines	Marketing

6. Controllability

- Controllable cost
 - A cost that a specific manager can control or significantly influence
- Uncontrollable cost
 - A cost that a manager cannot control or significantly influence
- Example:
 - For a production manager, are the salaries of the CEOs controllable costs? **NO**
 - Are the wages of production workers' controllable costs? **YES**

Using cost behaviour patterns to predict costs

- **High-low method** is used to estimate cost functions by considering data at the highest and lowest levels of **activity** (cost driver) within a certain range
- **Cost function:**
 - **Total cost = fixed cost + VC per unit of activity x no. of units**
 - 1. Select the highest and lowest level of activity
 - 2. Calculate VC per unit by using
 - Difference in cost level/ difference in activity levels
 - 3. Calculate the fixed costs
 - 4. Write the cost function
- **Lecture example 5**
 - The Longreach Factory has determined machine hours to be the cost driver of the company's electricity costs. The number of machine hours is provided in the Table along with the electricity costs for the first half of 2011

Month	Machine Hours	Electricity Cost \$
January	780	8 200
February	720	8 360
March	800	8 950
April	900	9 360
May	950	9 625
June	920	9 150

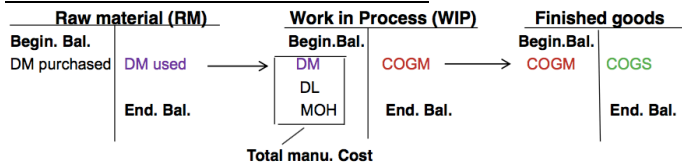
- Required:
 - 1. Used the high-low method to estimate the company's electricity cost behaviour and express it in equation form;
 - 2. Predict the electricity cost when 850 machine hours were used
- **1) Step 1**
 - Highest activity level: May 950 MH
 - Lowest activity level: February 720 MH
- Step 2 Variable cost per unit
 - $$\frac{\text{Difference in cost level}}{\text{Difference in activity level}} = \frac{\$9625 - \$8360}{950 - 720}$$
$$= \$1265 / 230$$
$$= \$5.5 \text{ per machine hour}$$
- Step 3 Calculate fixed costs by selecting one of the two points used to calculate the variable costs per unit
 - Total costs = FC + VC x No. of units
$$\begin{aligned} \$9625 &= \text{FC} + 5.5 \times 950 \text{ MH} \\ \text{FC} &= 9625 - 5225 \\ &= \$4400 \end{aligned}$$
- Step 4 Write the cost function
 - Total costs = FC + VC x No. of Units
 - **Total Cost = \$4400 + 5.5 x No. of machine hours**

- 2) Predict the electricity cost when 850 machine hours were used
 - Total cost = \$4400 + 5.5 x 850
 - = \$9075

Cost behaviour and the relevant range

- **Relevant range:** range of activity over which a particular cost behaviour pattern is assumed to be valid
- For example, in Lecture e.g. 6 the relevant range for the electricity cost is between 720 and 950 machine hours. Outside of the relevant range, the cost behaviour pattern may hold

Cost flow in a manufacturing business



$$\text{Cost of goods manufactured (COGM)} = \text{Begin. WIP} + \text{Total manufacturing costs} - \text{End. WIP}$$

$$\text{Cost of goods sold (COGS)} = \text{Begin. Finished goods} + \text{COGM} - \text{End. Finished goods}$$

- Explanations of T-accounts:
 1. Material is purchased: the cost is added to *RM inventory*;
 2. DM are consumed in production: cost is removed from *RM inventory* and added to *WIP inventory*;
 3. DL and MOH are accumulated in *WIP inventory*;
 4. Products are completed: costs are transferred from *WIP inventory* and added to *finished goods inventory*;
 5. Products are sold: costs are transferred from *finished goods inventory* to *cost of goods sold expense*