

Engineering Economics & Management

Financial Management & Economics

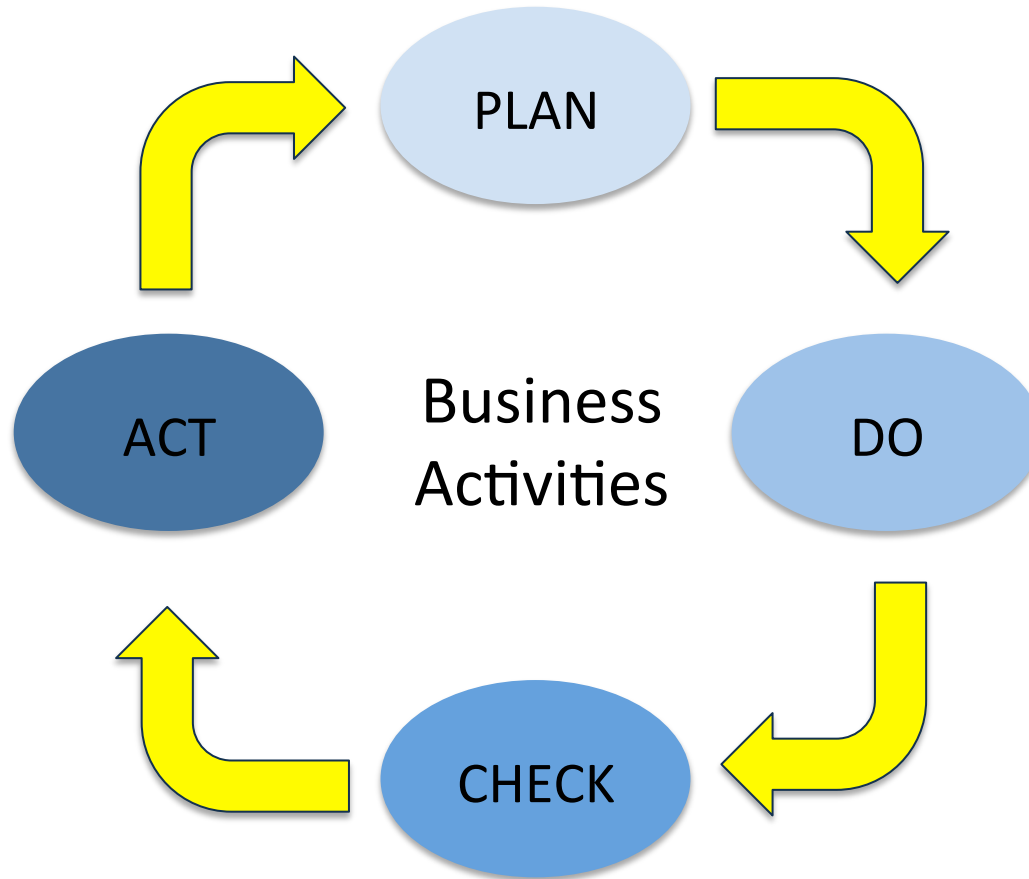
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Operating Profitably

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Financial Management

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Weighted Average Cost of Capital WACC

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Concept of Equity & Debt Financing

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- **Equity Financing:**
 - 100% financed by the owner
 - No other investor or loan
- **Debt Financing:**
 - Mixture of equity and debt
 - Borrowing of money on long term basis to finance the business

Method for calculating overall cost of finance for a firm is WACC

WACC

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**WACC = (After tax cost of debt x Debt financing) +
(Cost of equity x Equity financing)**

$$\text{WACC} = \left(K_D \times \frac{D}{E + D} \right) + \left(K_E \times \frac{E}{E + D} \right)$$

K_D = After tax cost of debt

D = Debt Cost

E = Equity Cost

K_E = Cost of equity

Example of WACC

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XYZ Ltd is a firm started by two friends who put in their own finance of 80,000. They also got a bank loan of 20,000 at an after tax cost of 7%. Equity cost are estimated at 15%. Calculate WACC.

Example of WACC

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XYZ Ltd is a firm started by two friends who put in their own finance of 80,000. They also got a bank loan of 20,000 at an after tax cost of 7%. Equity cost are estimated at 15%. Calculate WACC.

$$K_D =$$

$$D =$$

$$E =$$

$$K_E =$$

Example of WACC

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XYZ Ltd is a firm started by two friends who put in their own finance of 80,000. They also got a bank loan of 20,000 at an after tax cost of 7%. Equity cost are estimated at 15%. Calculate WACC.

$$K_D = 7\%$$

$$D = 20,000$$

$$E = 80,000$$

$$K_E = 15\%$$

Example of WACC

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XYZ Ltd is a firm started by two friends who put in their own finance of 80,000. They also got a bank loan of 20,000 at an after tax cost of 7%. Equity cost are estimated at 15%. Calculate WACC.

$$\text{WACC} = \left(K_D \times \frac{D}{E + D} \right) + \left(K_E \times \frac{E}{E + D} \right)$$

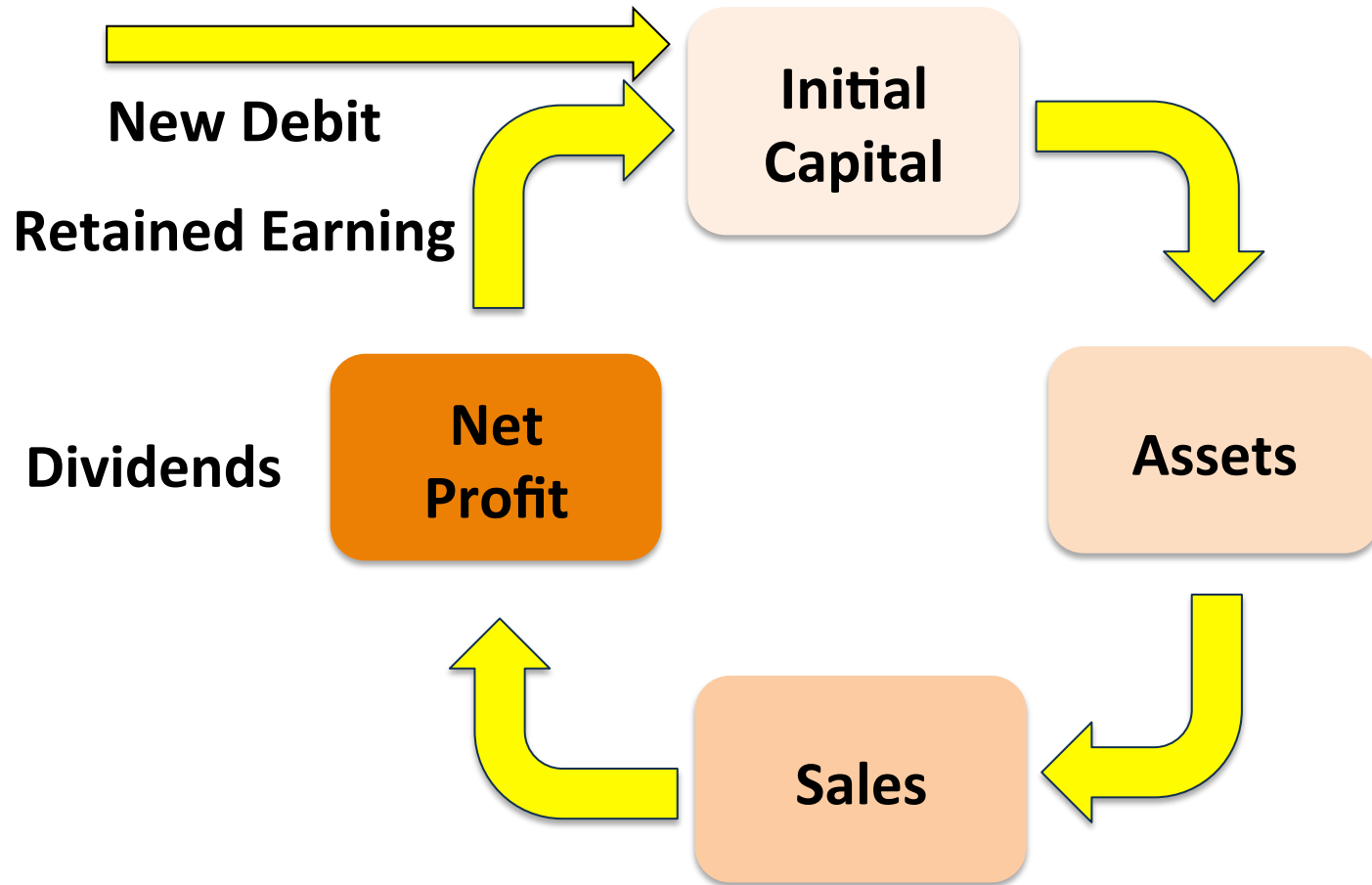
$$\begin{aligned} \text{WACC} &= (7\% \times 0.2) + (15\% \times 0.8) \\ &= 0.014 + 0.12) \\ &= 0.134 = 13.4\% \end{aligned}$$

Business Cycle

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Financial Management

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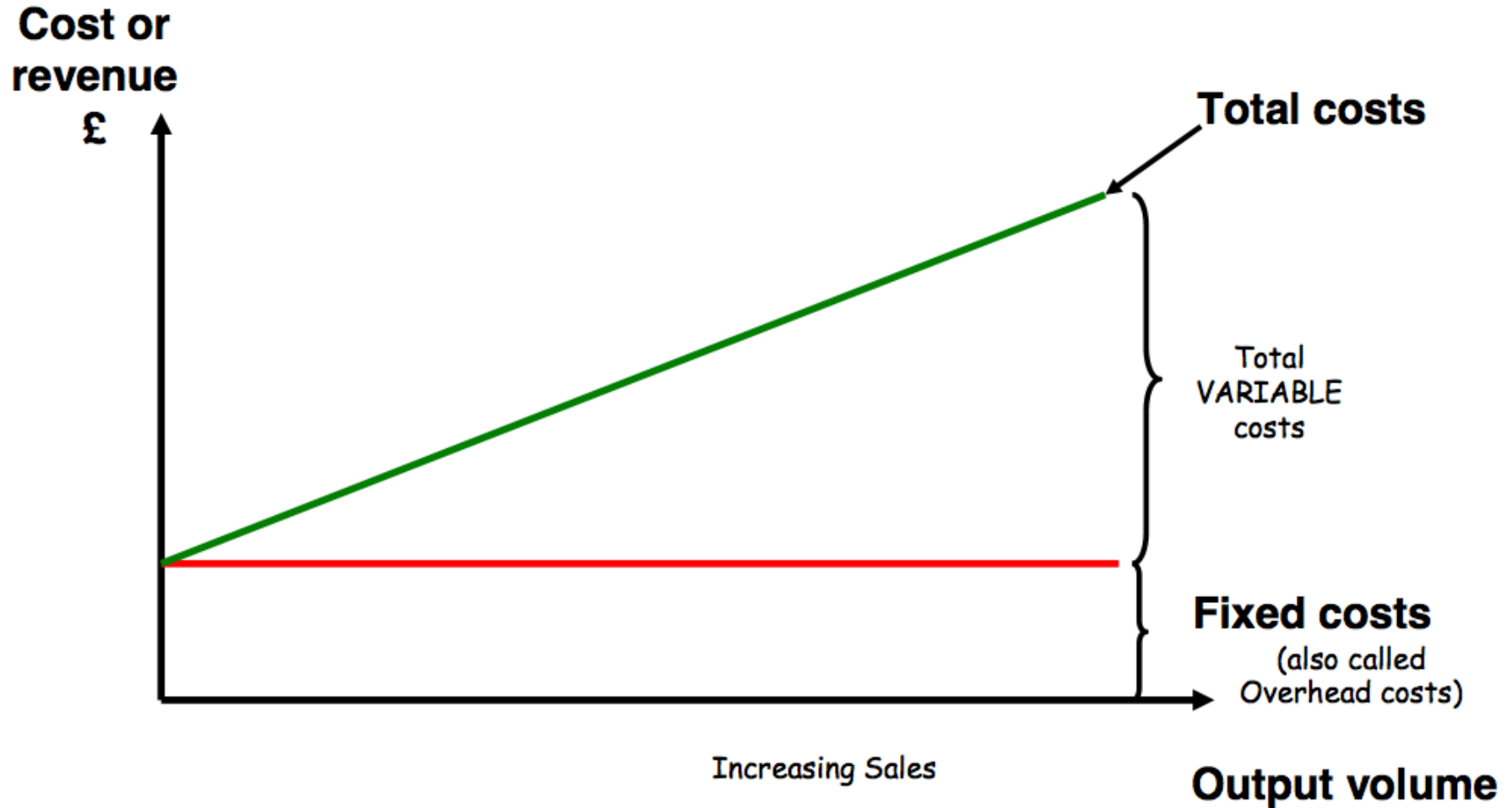


Terminologies

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Fixed & Variable Costs

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Terminologies

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- **Fixed Costs:**
 - Remain unchanged through a period of activities
- **Variable Costs:**
 - Vary in direct proportion to level of activity
- **Fixed Assets:**
 - Assets that are reused and unchanged are fixed
- **Current Assets:**
 - Assets used during production are called current

Contribution Statement

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Contribution Statement

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Contribution statement is used in Management Accounting

Sales Revenue
Less
Variable Costs
Equals
Contribution margin
Less
Fixed costs
Equals
Net profit or Income

Example of Contribution Statement

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XYZ Ltd design & manufactures wireless phones. Annual office and admin costs are 450,000 which are incurred regardless of sales. Phones are sold as a unit comprising a base station and 2 other phones connected wirelessly for 700. Each unit cost 350 each in terms of materials and 150 in terms of machining costs. Expected sales are 3000 units.

Write the contribution statement.

Example of Contribution Statement

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Sales Revenue	3000 x 700	2100,000
Less		
Variable Costs		
Equals		
Contribution margin		
Less		
Fixed costs		
Equals		
Net profit or Income		

Example of Contribution Statement

2nd May 16

Sales Revenue	3000 x 700	2100,000
Less		
Variable Costs	500 x 3000	1500,000
Equals		
Contribution margin		
Less		
Fixed costs		
Equals		
Net profit or Income		

Example of Contribution Statement

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Sales Revenue	3000 x 700	2100,000
Less		
Variable Costs	500 x 3000	1500,000
Equals		
Contribution margin	2100000-1500000	600,000
Less		
Fixed costs		
Equals		
Net profit or Income		

Example of Contribution Statement

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Sales Revenue	3000 x 700	2100,000
Less		
Variable Costs	500 x 3000	1500,000
Equals		
Contribution margin	2100000-1500000	600,000
Less		
Fixed costs		450,000
Equals		
Net profit or Income		150,000

Thankyou

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