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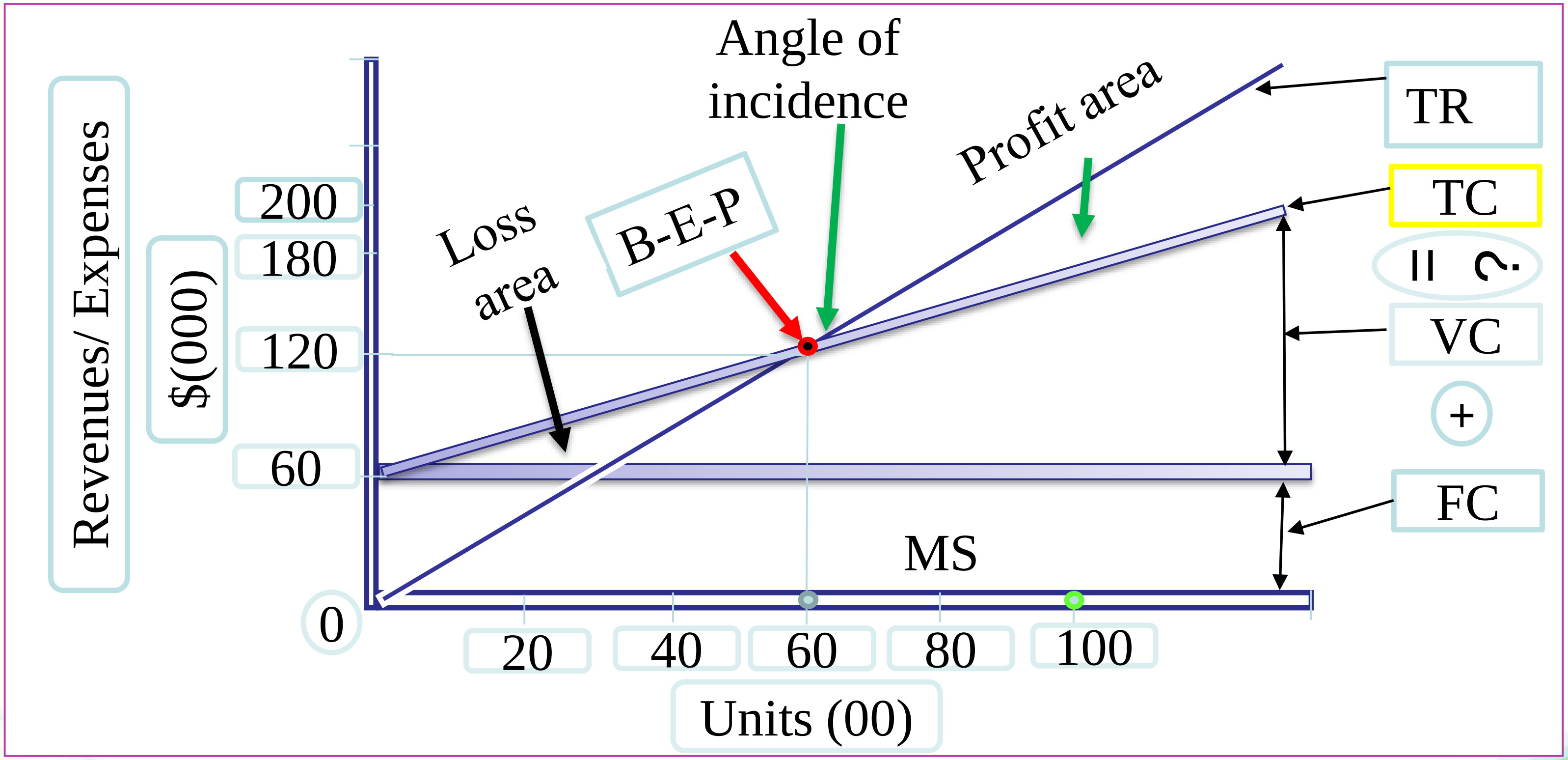
Cost-Volume-Profit Analysis

(C-V-P Analysis)

It is relationship between the cost incurred to manufacture goods and services and volume of goods and services produce and profit earn by selling those and goods and services.

C-V-P Analysis Graphical Presentation



Fixed Cost Vs. Variable Cost

Fixed cost: Total fixed but per unit vary;

Total costs	units	per unit cost
$10000	1000	$10
$ **10000**	**500**	**$20**
$ 10000	100	$100

Variable cost: Per unit fixed but total vary;

Per unit	units	total costs
$ 10	1000	$10000
$ **10**	**500**	$ **5000**
$ 10	100	$ 1000

Contribution Margin Example

- Fixed Costs Per Annum $60000
- Selling Price $20
- Variable Cost $10

CM Per Unit = SP-VC
CM Per Unit = $10

20-10= $10

CM Ratio = CM/SP*100
CM Ratio = 50%

10/20=
0.50*100=50%

Break-Even-Point Example

B-E-P (in units)= FC/ CM per unit

Fixed cost $60000

CM per unit $10

B-E-P(units) = 6000

60000/10= 6000

B-E-P (In dollars) = TFC/CM ratio

CM ratio = 50%

B-E-P (Dollars) = $120000

$ 60000/0.50= $120000

Margin of Safety Example

MS = TS - B/E sales

Total Sales 10000 units

MS units= 10000- 6000**= 4000**

MS Ratio= MS/sales

Total selling price= 10000* **20**= $200000

MS = 200000 – 120000= $80000

MS ratio = 80000/200000= 0.40 or 40%

4000* 20=$ 80000

Target Profit

Target profit Units = (TFC + Target profit)/ CM per unit

Target profit = $ 50000

TFC = $ 60000

CM P/U = $ 10

Target profit (units) = **11000**

(60000+50000)/10
= 11000

Target profit ($) = (TFC + Target profit)/ CM ratio

Target Profit($) = $**220000**

(60000+50000)/0.50= 220000

Degree of Operating Leverage

Selling price	$ 200000
Variable cost	$ 100000
CM	$ **100000**
Fixed cost	$ 60000
Net operating Income	$ **40000**

Degree of operating Leverage = CM/ Net operating income

Degree of operating Leverage = 2.5

100000/40000=2.5

C-V-P Analysis Assumptions

1. All other variables remain constant
2. Fixed costs do not change.
3. Unit variable cost and selling price are constant.
4. The analysis applies over the relevant range only.
5. Single product or constant sales mix.

Thank you so much