Chapter - 9

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Responsibility Accounting

Concept:

Cost Center: A cost center is a business segment whose manager has control over costs but not over revenue or in investment fund. As for example, Prime cost center, overhead cost center etc.

Profit Center: In contrast to a cost center, a profit center is any business segment whose manager has control over both cost and revenue. As for example, Production cost center, cost f sales enter, gross profit center, net profit center etc.

Investment Center: An investment center is any segment of an organization whose manager has control over cost, revenue and investments in operating assets. As for example, Fixed asset investment center and current asset investment center

Responsibility Center: Responsibility Center is broadly defined as any part of an organization whose manager has control over cost, revenue or investment funds. Cost centers, profit center and investment centers are all known as responsibility center.

Segmented Financial Statement: Those Financial Statements which are prepared segment wise of an organization. Such segment, may be product segment, market segment etc. As for example. Segmented Income statement, segmented balance sheet etc.

Return on Investment (ROI): ROI can be found out as follows:

Completion of ROI=

$$\text{Margin} \quad \times \quad \text{Turnover}$$

$$= \frac{\text{Net operating Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average Operating Income}}$$

Residual Income (RI): RI is the access of net operating income over minimum required return on operating assets:

Exercise: 12-5

01.

	Total Co							
	$	%	$	%	$	%	$	%
Sales	15000 00	100	40000 0	100	600000	100	500000	100
Less Variable Expense	58800 0	39.2	20800 0	52	180000	30	200000	40
CM	91200 0	60.8	19200 0	48	420000	70	300000	60
Less: Traceable fixed Expense	77000 0	51.3	24000 0	60	330000	55	200000	40
Segment Margin	14200 0	9.5	(4800 0)	(12)	90000	15	100000	20

Less: Common F.E. (not Traceable)(945000-770000)	(17500 0)	11.7							
Net loss	(33000)	(2.2)							

02. Incremental Sales (600000 x 0.15) $90000
CM Ratio 70%
Incremental CM 63000
Less: Advertising 25000
Incremental NOI $38000

Yes the increased advertising program is recommended since it would lead to an incremental Net operating Income of $ 38000

Exercise: 12-7

01. Completion of ROI=

Margin X Turnover

$$\frac{\text{Net operating Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average Operating Income}}$$

Eastern Division:

$$\frac{90000}{1000000} \times \frac{1000000}{500000}$$
$= .09 \times 2$
$= 18\%$

Western Division:

$$\frac{105000}{1750000} \times \frac{1750000}{500000}$$
$= .06 \times 3.5$
$= 21\%$

02. From the data available, it can be said that Western Division Manager is doing better job as compared to DM of Eastern. This is so because of higher ROI of Western Division 21% than that of Eastern Division 18%.

Exercise: 12-7 (9)

01. Completion of ROI=

Margin X Turnover

$$\frac{\text{Net operating Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average Operating Income}}$$

Perth Division:

$$\frac{630000}{900000} \times \frac{9000000}{3000000}$$
$$= .07 \times 3$$
$$= 21\%$$

Darwin Division:

$$\frac{1800000}{20000000} \times \frac{20000000}{10000000}$$
$$= .09 \times 2$$
$$= 18\%$$

02. Computation of Residual Income:

Average Operating Asset

	Perth Division	Darwin Division
Average Operating Asset (a)	3000000	10000000
Net Operating Income	630000	1800000
Minimum Required		
Return on operating Asset 16% on (a)	(480000)	(1600000)
Residual Income	150000	200000

03. No. The Darwin Division is simply larger than the Perth Division & for this reason one would expect that it would have a greater amount of residual income.

01. Exercise; 12-5

1.

	Total company		East		Central		West	
Sales	$1000000	100%	$250000	100%	$400000	100%	$350000	100%
Less variable expenses	390000	39.0	130000	52	120000	30	140000	40
Contribution margin	610000	61	120000	48	280000	70	210000	60
Less traceable fixed expenses	535000	53.5	160000	64	200000	50	175000	50
Divisional segment margin	75000	7.5	$(40000)	(16%)	$80000	20%	$35000	10%
Less common fixed expenses not traceable to divisions	90000	9.0						
Net income (loss)	(15000)	(1.5)						

$6 25000-$ 535000 = $90000

2.

Incremental sales ($3500000 x 20%)	$70000
Contribution margin ratio	x 60%
Incremental contribution margin	42000
Less incremental advertising expenses	15000
Incremental net income	$27000

Yes, the advertising program should be initiated.

02. Exercise;

1. ROI computation;

ROI = Margin x Turnover

$$= \frac{\text{Net operating income}}{\text{Sales}} \times \frac{\text{sales}}{\text{average operating assets}}$$

$$\text{Queensland division} = \frac{\$360000}{\$4000000} \times \frac{\$7000000}{\$2000000}$$

= 6% x 3.5%

= 21%

03.

The manager of the New South Wales division seems to be doing doing job. Although his margin of the Queensland division. His turn over is higher (a turn over of 3.5 as compared to a turnover of two for the Queensland division). The greater turnover more than offsets the lower margin, resulting in a 21%ROI as compared to an 18% ROI for the other division.

04. Exercise;12-13

1.

ROI = Margin x Turnover

$$= \frac{\text{Net operating income}}{\text{Sales}} \times \frac{\text{sales}}{\text{average operating assets}}$$

$$\text{Osaka division} = \frac{\$210000}{\$3000000} \times \frac{\$3000000}{\$1000000}$$

= 7% x 3%

= 21%

Yokohama division = $720000 x $9000000

$9000000 $4000000
= 8% x 2.25%
=18%

2.

	Osaka	Yokohama
Average operating assets	$1000000	$4000000
Net operating income	$210000	$720000
Minimum required return on average operating assets- 15% x (a)	150000	600000
Residual income ……	$60000	$120000

3. No, the Yokohama division is simply larger than the Osaka division and for this reason one would expect that it would have a grater amount of residual income.

05. Exercise;12-16

1.

ROI = Margin x Turnover

= Net operating income / Sales x sales / average operating assets

Asia
= $600000 / $12000000 x $12000000 / $3000000
= 5% x 4%
= 20%

Europe
= $560000 / $14000000 x $14000000 / $7000000
= 4% x 2%
=8%

North America
= $800000 / $25000000 x $25000000 / $5000000
= 3.2% x5%
=16%

2.

	Asia	Europe	North America
Average operating assets	$3000000	$7000000	$5000000
Required rate of return	x 14%	x 10%	x 16%
Required operating income	$420000	$700000	$800000
Actual operating income	$600000	$560000	$800000
Required operating income	420000	700000	800000
Residual income	$ 180000	$ (140000)	$ 0