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Manajemen Keuangan

1. Aliran kas yang dihasilkan

$$T_0 = \text{biaya investasi} + \text{modal akhir}$$

$$= -(10.000 + 200)$$

$$= -10.200$$

$$T_1 = 7.000 - 2.000 - 250$$

$$= 4.750$$

$$T_2 = 7.000 - 2.000 - 200$$

$$= 4.800$$

$$T_3 = 7.000 - 2.000 - 300$$

$$= 4.700$$

$$T_4 = 7.000 - 2.000$$

$$= 5.000$$

2. - Metode NPV

$$NPV = \left[\frac{4.750}{(1+0,22)^1} + \frac{4.700}{(1+0,22)^2} + \frac{4.800}{(1+0,22)^3} + \frac{5.000}{(1+0,22)^4} \right] - 10.200$$

$$= (3.893,44 + 3.157,75 + 2.643,39 + 2.256,91) - 10.200$$

$$= 11.951,49 - 10.200$$

$$= 1.751,49$$

- Metode IRR

$$22\% \times 7.916 = 1.741,52$$

$$25\% \times 7.916 = 1.979$$

$$IRR = \frac{1.741,52}{1.979} \times 25\%$$

$$= 0,88 \times 0,25$$

$$= 0,22$$

$$10.200 = \left[\frac{4.750}{(1+0,22)^1} + \frac{4.700}{(1+0,22)^2} + \frac{4.800}{(1+0,22)^3} + \frac{5.000}{(1+0,22)^4} \right]$$

$$10.200 = 11.951,49$$

$$10.200 < 11.951,49 \text{ (layak)}$$

3. Proyek A

$$\begin{aligned} \text{NPV } 10\% &= \left[\frac{3.362.000}{(1+0,1)^1} + \frac{3.362.000}{(1+0,1)^2} + \frac{3.362.000}{(1+0,1)^3} + \frac{3.362.000}{(1+0,1)^4} \right] - 10.000.000 \\ &= (3.056.363 + 2.778.512 + 2.525.920 + 2.296.291) - 10.000.000 \\ &= 10.657.086 - 10.000.000 \\ &= 657.086 \end{aligned}$$

$$\begin{aligned} 12\% &= \left[\frac{3.362.000}{(1+0,12)^1} + \frac{3.362.000}{(1+0,12)^2} + \frac{3.362.000}{(1+0,12)^3} + \frac{3.362.000}{(1+0,12)^4} \right] - 10.000.000 \\ &= (3001.785 + 2.680.165 + 2.393.005 + 2.136.611) - 10.000.000 \\ &= 10.211.566 - 10.000.000 \\ &= 211.566 \end{aligned}$$

$$\begin{aligned} \text{IRR} &= \frac{657.086}{211.566} \times 12\% \\ &= 0,372 \\ &= 37,2\% > 12\% \text{ (layak)} \end{aligned}$$

Proyek B

$$\begin{aligned} \text{NPV } 10\% &= \left[\frac{0}{(1+0,1)^1} + \frac{0}{(1+0,1)^2} + \frac{0}{(1+0,1)^3} + \frac{13.605.000}{(1+0,1)^4} \right] - 10.000.000 \\ &= (0 + 0 + 0 + 9.292.398) - 10.000.000 \\ &= -707.601 \end{aligned}$$

$$\begin{aligned} 12\% &= \left[\frac{0}{(1+0,12)^1} + \frac{0}{(1+0,12)^2} + \frac{0}{(1+0,12)^3} + \frac{13.605.000}{(1+0,12)^4} \right] - 10.000.000 \\ &= (0 + 0 + 0 + 8.646.223) - 10.000.000 \\ &= -1.353.776 \end{aligned}$$

$$\begin{aligned} \text{IRR} &= \frac{-707.601}{-1.353.776} \times 12\% \\ &= 0,062 \\ &= 6,2 < 12\% \text{ (tidak layak)} \end{aligned}$$

Proyek C

$$\begin{aligned} \text{NPV } 10\% &= \left[\frac{1.000.000}{(1+0,1)^1} + \frac{3.000.000}{(1+0,1)^2} + \frac{6.000.000}{(1+0,1)^3} + \frac{7.000.000}{(1+0,1)^4} \right] - 10.000.000 \\ &= (909.090 + 2.479.338 + 4.507.888 + 4.781.094) - 10.000.000 \\ &= 12.677.410 - 10.000.000 \\ &= 2.677.410 \end{aligned}$$

$$\begin{aligned} 12\% &= \left[\frac{1.000.000}{(1+0,12)^1} + \frac{3.000.000}{(1+0,12)^2} + \frac{6.000.000}{(1+0,12)^3} + \frac{7.000.000}{(1+0,12)^4} \right] - 10.000.000 \\ &= (892.857 + 2.382.086 + 4.270.681 + 4.448.626) - 10.000.000 \\ &= 11.994.250 - 10.000.000 \\ &= 1.994.250 \end{aligned}$$

$$\text{IRR} = \frac{2.677.410}{1.994.250} \times 12\%$$

$$= 0,161$$

$$= 16,1\% > 12\% \text{ (layak)}$$