

23/10
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prodi : Si Manajemen

Mk : Manajemen keuangan.

Problem

1. Aturan kas

T_0 : Biaya (investasi + modal akhir)

$$= -(10.000 + 200)$$

$$= -10.200$$

T_1 : $7000 - 2000 - 250$

$$= 4.750$$

T_2 : $7000 - 2000 - 300$

$$= 4.700$$

T_3 : $7000 - 2000 - 200$

$$= 4.800$$

T_4 : $7000 - 2000$

$$= 5000$$

2. Metode NPV

bunga 22%

$$\begin{aligned} NPV &= \left[\frac{4.750}{1+(0,22)^1} + \frac{4.700}{1+(0,22)^2} + \frac{4.800}{1+(0,22)^3} + \frac{5000}{1+(0,22)^4} \right] - 10.200 \\ &= [3.894 + 4485 + 4749 + 4988] - 10.200 \\ &= 18.116 - 10.200 \\ &= 7.916 \end{aligned}$$

Karena nilai NPV positif maka investasi tersebut berhasil / layak

- Metode IRR

$$22\% \times 7.916 = 1.742$$

$$25\% \times 7.916 = 1979$$

$$IRR = \frac{1.742}{1979} \times 25\%$$

$$= 0,22$$

Maka :

$$10.200 \rightarrow \left[\frac{4.750}{1+(0.22)^1} + \frac{4700}{1+(0.22)^2} + \frac{4800}{1+(0.22)^3} + \frac{5000}{1+(0.22)^4} \right]$$

$$10.200 \rightarrow 18.116$$

Karena hasil metode IRR lebih besar dari Investasi awal, maka Investasi tersebut layak.

C

	tahun I	tahun II	tahun III	tahun IV
10% NPV	$\frac{1.000.000}{(1+0.1)^1}$	$\frac{3.000.000}{(1+0.1)^2}$	$\frac{6.000.000}{(1+0.1)^3}$	$\frac{2.000.000}{1+(0.1)^4} - 10.000.000$
	= 909.090	+ 2.479.338	+ 4.507.828	+ 4.781.094
	= 12.677.410 - 10.000.000			
	= 2.677.410			

$$12\% \text{ NPV} = \frac{100.000}{(1+0.12)^1} + \frac{3.000.000}{(1+0.12)^2} + \frac{6.000.000}{(1+0.12)^3} + \frac{7.000.000}{(1+0.12)^4} - 10.000.000$$

$$= 892.857 + 2.391.581 + 4.270.681 + 4.498.626$$

$$= 12.003.745 - 10.000.000$$

$$= 2.003.745$$

$$IRR = \frac{2.677.410}{2.003.745} > 12\% = 16,03\% > 10\%$$

↳ maka Disetujui

3. Tentukan masing-masing proyek!

• Proyek A

misalkan pada Diskon rate 10%

$$NPV = \left[\frac{3.362.000}{(1+0.1)} + \frac{3.362.000}{(1+0.1)^2} + \frac{3.362.000}{(1+0.1)^3} + \frac{3.362.000}{(1+0.1)^4} \right] - 10.000.000$$

$$= (3.056.363 + 2.778.512 + 2.572.819 + 2.269.291) - 10.000.000$$

$$= 10.211.616 - 10.000.000$$

$$= 2.111.616$$

$$IRR A = \frac{NPV 10\%}{NPV 12\%} \times 12\%$$

$$= \frac{639.985}{211.616} = 36,29\% > 12\%, \text{ maka layak disetujui}$$

- proyek B

misalkan discount rate 10%

$$NPV = \left(\frac{13.605.000}{(1+0,1)^4} \right) - 10.000.000$$

$$= 9.292.398 - 10.000.000$$

$$= -707.601$$

misalkan pada discount rate 12%

$$NPV = \left(\frac{13.605.000}{(1+0,12)^4} \right) - 10.000.000$$

$$= 8.646.329 - 10.000.000$$

$$= -1.353.670$$

$$IRR B = \frac{NPV 10\%}{NPV 12\%} \times 12\%$$

$$= \frac{-101.601}{-353.670} \times 12\%$$

$$= 0,62\% < 10\% \text{ maka proyek tidak layak disetujui.}$$

- proyek C

Misalkan pada discount rate 10%

$$NPV = \left[\frac{1.000.000}{(1+0,1)^1} + \frac{3.000.000}{(1+0,1)^2} + \frac{6.000.000}{(1+0,1)^3} + \frac{7.000.000}{(1+0,1)^4} \right] - 10.000.000$$

$$= (909.090 + 2.479.338 + 4.507.888 + 4.781.094) - 10.000.000$$

$$= 12.677.410 - 10.000.000$$

$$= \underline{\underline{2.677.410}}$$

Misalkan discount rate 12%

$$NPV = \left[\frac{1.000.000}{(1+0,12)^1} + \frac{3.000.000}{(1+0,12)^2} + \frac{6.000.000}{(1+0,12)^3} + \frac{7.000.000}{(1+0,12)^4} \right] - 10.000.000$$

$$= (892.857 + 2.391.581 + 4.270.681 + 4.448.681) - 10.000.000$$

$$= 12.003.745 - 10.000.000$$

$$= 2.003.745$$

$$IRR C = \frac{2.677.410}{2.003.745} \times 12\%$$

$$= 16,03\% > 10\%$$

$$\text{maka proyek layak disetujui}$$