

Topic 6

No.

Date:

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Prodi : Manajemen

1. Aliran Kas

T_0 : Biaya investasi & ~~akhir~~ modal Akhir

$$: -(10.000 + 200)$$

$$: - 10.200$$

$$T_1 : 7000 - 2500 - 250$$

$$: 4.750$$

$$T_2 : 7000 - 2500 - 300$$

$$: 4.700$$

$$T_3 : 7000 - 2500 - 200$$

$$: 4.800$$

$$T_4 : 7000 - 2000 - 0$$

$$= 5000$$

2. Metode NPV

bungsa : 22%

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

Karena nilai NPV positif maka investasi tersebut berhasil / layak

- Metode IRR

$$22\% \times 7.916 : 1.742$$

$$25\% \times 7.916 : 1.979$$

$$\text{IRR} = \frac{1.742}{1.979} \times 25\%$$

$$1979$$

$$= 0,22$$

Maka :

$$10.200 \rightarrow \left[\frac{4.750}{1+(0,22)^1} + \frac{4700}{1+(0,22)^2} + \frac{4800}{1+(0,22)^3} + \frac{5000}{1+(0,22)^4} \right]$$

$$10.200 \rightarrow 18.116$$

3. Net Present Value

$$\begin{aligned}
 10\% \text{ NPV} &: \frac{3.362.000}{(1+0.1)^1} + \frac{3.362.000}{(1+0.1)^2} + \frac{3.362.000}{(1+0.1)^3} + \frac{3.362.000}{(1+0.1)^4} - 10.000.000 \\
 &= \frac{3.362.000}{1.1} + \frac{3.362.000}{1.21} + \frac{3.362.000}{1.331} + \frac{3.362.000}{1.4641} - 10.000.000 \\
 &= 3.056.363 + 2.770.512 + 2.527.819 + 2.269.291 - 10.000.000 \\
 &= 10.631.985 - 10.000.000 \\
 &= 631.985
 \end{aligned}$$

12% NPV :

$$\begin{aligned}
 10\% \text{ NPV} &: \frac{3.620.000}{(1+0.12)^1} + \frac{3.620.000}{(1+0.12)^2} + \frac{3.620.000}{(1+0.12)^3} + \frac{3.620.000}{(1+0.12)^4} - 10.000.000 \\
 &= 3.001.785 + 2.680.163 + 2.393.005 + 2.136.601 - 10.000.000 \\
 &= 10.211.616 - 10.000.000 \\
 &= 211.616
 \end{aligned}$$

$$\begin{aligned}
 \text{IRR}' &: \frac{631.985}{211.616} \times 12\% \\
 &= 35.8\% \neq 7\%
 \end{aligned}$$

R. Kas masuk tahun 1, 2, 3 : 0

tahun ke 4 : 13.605.000

$$\begin{aligned}
 10\% \text{ NPV} &: \frac{13.605.000}{(1+0.1)^5} - 10.000.000 \\
 &= 9.292.398 - 10.000.000 \\
 &= -707.601
 \end{aligned}$$

$$\begin{aligned}
 12\% \text{ NPV} &: \frac{13.605.000}{(1+0.12)^5} - 10.000.000 \\
 &= \frac{13.605.000}{1.5735} \\
 &= 8.646.223 - 10.000.000 \\
 &= -1353.776
 \end{aligned}$$

IRR 0

$$\begin{aligned}
 \text{IRR} &: -707.601 \times 12\% \\
 &= -1.353.776 \times 12\% \\
 &= 0.5226
 \end{aligned}$$

: 0.062% < 10% tidak setuju

C	Tahun I	Tahun II	Tahun III	Tahun IV
	1.000.000	+ 3.000.000	+ 6.000.000	+ 2.000.000 - 10.000.000
10% NPV	$(1+0,1)^1$	$(1+0,1)^2$	$(1+0,1)^3$	$(1+0,1)^4$
	909.090	+ 2.479.338	+ 4.507.828	+ 1.781.094
	: 10.677.410 - 10.000.000			
	: 2.677.410			

12% NPV	100.000	+ 3.000.000	+ 6.000.000	+ 7.000.000 - 10.000.000
	$(1+0,12)^1$	$(1+0,12)^2$	$(1+0,12)^3$	$(1+0,12)^4$
	89.857	+ 2.391.581	+ 4.270.681	+ 4.498.626
	: 12.003.745 - 10.000.000			
	: 2.003.745			

IRR : $\frac{2.677.410}{2.003.745} \times 10\% = 16,03\% > 10\%$
 ↳ maka disetujui