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1. Aliran kas

$$\begin{aligned}T_0 &= \text{Biaya investasi} + \text{modal akhir} \\ &= -(10.000 + 200) \\ &= -10.200\end{aligned}$$

$$\begin{aligned}T_1 &= -1000 - 2000 \cdot 250 \\ &= 4.750\end{aligned}$$

$$\begin{aligned}T_2 &= 7000 - 2000 - 300 \\ &= 4.700\end{aligned}$$

$$\begin{aligned}T_3 &= 7000 - 2000 - 200 \\ &= 4.800\end{aligned}$$

$$\begin{aligned}T_4 &= 7000 - 2000 \\ &= 5.000\end{aligned}$$

2. Metode NPV

bunga = 22 %

$$\begin{aligned} \text{NPV} &= \left[\frac{4.750}{1+(0,22)^1} + \frac{4.700}{1+(0,22)^2} + \frac{4.800}{1+(0,22)^3} + \frac{500}{1+(0,22)^4} \right] - 10.200 \\ &= [3.899 + 4985 + 4799 + 4988] - 10.200 \\ &= 18.116 - 10.200 \\ &= 7.916 \end{aligned}$$

Karena nilai NPV positif maka investasi tersebut berhasil (layak)
-metode IRR

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

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

$$\begin{aligned} \text{IRR} &= \frac{1.742 \times 25\%}{1979} \\ &= 0,22 \end{aligned}$$

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

$$10.200 \rightarrow 18.116$$

karena hasil metode IRR lebih besar dari investasi awal
maka investasi tersebut layak

3. Proyek A

$$\begin{aligned} NPV &= \left[\frac{2.262.000}{(1+0,10)^1} + \frac{2.262.000}{(1+0,10)^2} + \frac{2.262.000}{(1+0,10)^3} + \frac{2.262.000}{(1+0,10)^4} \right] - 10.000.000 \\ &= 10.657.088 - 10.000.000 \\ &= 657.088 \end{aligned}$$

Proyek B

$$\begin{aligned} NPV &= \left[\frac{13.605.000}{(1+0,10)^4} \right] - 10.000.000 \\ &= 9.292.798 - 10.000.000 \\ &= -707.602 \end{aligned}$$

Proyek C

$$\begin{aligned} NPV &= \left[\frac{1.000.000}{(1+0,10)} + \frac{3.000.000}{(1+0,10)^2} + \frac{6.000.000}{(1+0,10)^3} + \frac{7.000.000}{(1+0,10)^4} \right] - 10.000.000 \\ &= 12.677.413 - 10.000.000 \\ &= 2.677.413 \end{aligned}$$

IRR Proyek A

$$10\% \times 657.088 = 65.709$$

$$13\% \times 657.088 = 85.421$$

$$IRR = \frac{65.709}{85.421} \times 13\%$$

$$= 0,10$$

$$= 10\%$$

~~IRR~~ proyek B

$$10\% \times 2.677.413 = 267.741$$

$$13\% \times 2.677.913 = 348.069$$

$$\text{IRR} = \frac{267.741}{348.069} \times 13\% = 10\%$$

- a) Jika menggunakan proyek independent proyek yang diterima layak yaitu proyek A & C
b) Jika menggunakan proyek mutually exclusive proyek C lebih baik