

Sabtu, 23 oktober 2021

Date:

NO:

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Problem!

Hal 167-168

1) Aliran kas proyek Investasi

$T_0 = \text{Biaya Investasi} + \text{modal akhir}$

$$= - (10000 + 200)$$

$$= -10.200$$

$T_1 = \text{Biaya Investasi} + \text{modal akhir}$

$= (\text{penjualan} - \text{Biaya operasional}) + \text{modal akhir}$

$$= (7000 - 200) - 250$$

$$= 5000 - 250$$

$$= 4.750$$

$$T_2 = 5000 - 300$$

$$= 4.700$$

$$T_3 = 5000 - 200$$

$$= 4.800$$

$$T_4 = 5000 - 0$$

$$= 5000$$

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$$2) \blacktriangleright \text{Payback period} = 4750 + 4700 + \left(\frac{750}{4800} \right)$$

$$= 1 \text{ tahun} + 1 \text{ tahun} + 0,15625$$

$$= 2,16 \text{ tahun} / 12$$

$$= 0,18 \rightarrow = 2 \text{ tahun } 2 \text{ bulan}$$

\blacktriangleright Net present value

$$22\% \text{ NPV} = \frac{4750}{(1+0,22)^1} + \frac{4700}{(1+0,22)^2} + \frac{4800}{(1+0,22)^3}$$

$$+ \frac{5000}{(1+0,22)^4} - 10.200$$

$$= \frac{4750}{1,22} + \frac{4700}{1,4884} + \frac{4800}{1,8158} + \frac{5000}{2,2153}$$

$$- 10.200$$

$$= 3893 + 3157 + 2643 + 2252 - 10.200$$

$$= 11.950 - 10.200$$

$$= 1750$$

$$25\% \text{ NPV} = \frac{4750}{(1+0,25)^1} + \frac{4700}{(1+0,25)^2} + \frac{4800}{(1+0,25)^3}$$

$$+ \frac{5000}{(1+0,25)^4} - 10.200$$

$$= \frac{4750}{1,25} + \frac{4700}{1,5625} + \frac{4800}{1,953} + \frac{5000}{2,441} - 10.200$$

$$= 3800 + 3008 + 2457 + 2048 - 10.200$$

$$= 1133 - 10.200$$

$$= 1113$$

$$\bullet \text{ IRR} = \frac{1750}{1113} \times 25\%$$

$$= 39,3\% > 22\%$$

Maka, usulan investasi tersebut layak dilakukan.

3) * Proyek A

$$\text{NPV} = \left[\frac{3.362.000}{(1+0,10)^1} + \frac{3.362.000}{(1+0,10)^2} + \frac{3.362.000}{(1+0,10)^3} \right.$$

$$\left. + \frac{3.362.000}{(1+0,10)^4} \right] - 10.000.000$$

$$= 10.657.088 - 10.000.000$$

$$= 657.088$$

* Proyek B

$$\text{NPV} = \left[\frac{13.605.000}{(1+0,10)^4} \right] - 10.000.000$$

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$$= 9.292.398 - 10.000.000$$

$$= -707.602$$

* Proyek C

$$NPV = \left[\frac{1.000.000}{(1+0,10)^1} + \frac{3.000.000}{(1+0,10)^2} + \frac{6.000.000}{(1+0,10)^3} \right.$$

$$\left. + \frac{7.000.000}{(1+0,10)^4} \right] - 10.000.000$$

$$= 12.677.913 - 10.000.000$$

$$= 2.677.913$$

► IRR → proyek A

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

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

$$IRR = \frac{657.709}{85.421} \times 13\%$$

$$= 0,10$$

$$= 10\%$$

► IRR → proyek B

$$10\% \times (-707.602) = -70.760$$

$$13\% \times (-707.602) = -91.988$$

$$IRR = \frac{-70.760}{-91.988} \times 13\%$$

$$= 0,77 \times 13\%$$

$$= 0,10$$

$$= 10\%$$

► IRR → Proyek C

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

$$13\% \times 2.677.413 = 348.064$$

$$IRR = \frac{267.741}{348.064} \times 13\%$$

$$= 10\%$$

a) Jika menggunakan proyek independent proyek yang diterima / layak yaitu proyek A & C

b) Jika menggunakan proyek mutually eksklusif proyek C lebih layak