

Case Study

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Explanation:

We found out that the present value of the investments is \$18,612,492.46 which is less than the \$24 million which we have invested and hence we will not accept the project.

If we use the NPV then we get the value as a negative \$3,387,507 and hence we will reject the project.

		2024	2025	2026	2027	2028	2029	2030
Capital Outlay		\$ (22,000,000.00)	\$ (2,000,000.00)					
Savings			\$ 2,000,000.00	\$ 2,500,000.00	\$ 2,500,000.00	\$ 2,500,000.00	\$ 2,500,000.00	\$ 2,500,000.00
Additional revenue			\$ 4,000,000.00	\$ 10,000,000.00	\$ 10,000,000.00	\$ 10,000,000.00	\$ 10,000,000.00	\$ 10,000,000.00
COGS	68% of rev		\$ (2,720,000.00)	\$ 6,800,000.00	\$ 6,800,000.00	\$ 6,800,000.00	\$ 6,800,000.00	\$ 6,800,000.00
SG&A	5% of rev		\$ (200,000.00)	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00
Depreciation	SLM		\$ (4,000,000.00)	\$ (4,000,000.00)	\$ (4,000,000.00)	\$ (4,000,000.00)	\$ (4,000,000.00)	\$ (4,000,000.00)
Net Operating Income			\$ (920,000.00)	\$ 1,200,000.00	\$ 1,200,000.00	\$ 1,200,000.00	\$ 1,200,000.00	\$ 1,200,000.00
Tax	21%							
NWC			\$ 400,000.00	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,000,000.00
NOPAT		\$ -	\$ (726,800.00)	\$ 948,000.00	\$ 948,000.00	\$ 948,000.00	\$ 948,000.00	\$ 948,000.00
Changes in NWC			\$ (400,000.00)	\$ (600,000.00)	\$ -	\$ -	\$ -	\$ -
CAPEX		\$ (22,000,000.00)	\$ (2,000,000.00)					
Depreciation		\$ -	\$ 4,000,000.00	\$ 4,000,000.00	\$ 4,000,000.00	\$ 4,000,000.00	\$ 4,000,000.00	\$ 4,000,000.00
FCFF		\$ (22,000,000.00)	\$ 873,200.00	\$ 4,348,000.00	\$ 4,948,000.00	\$ 4,948,000.00	\$ 4,948,000.00	\$ 4,948,000.00
Time Factor		0	1	2	3	4	5	6
PV of FCFF		\$ (22,000,000.00)	\$ 808,816.31	\$ 3,730,455.64	\$ 3,932,223.63	\$ 3,642,288.82	\$ 3,373,731.79	\$ 3,124,976.28
SUM of PV		\$ 18,612,492.46						
NPV		\$18,612,492.46	(\$3,387,507.54)					

CAPM:	9.02%		After Tax Cost of Debt	3.34%
Beta	\$ 1.25		Cost of Debt	4.23%
Risk Free Rate	2.46%		Tax	21%
Market Premium	5.25%			
Market Cap:	\$ 10,000.00			
Number of Outstanding Shares	400			
Share Price	\$ 25.00			
Debt:	\$ 2,300.00			
Short Term	\$ 300.00			
Long Term	\$ 2,000.00			
Total Value:	\$ 12,300.00			
Equity Weighting	81.30%			
Debt Weighting	18.70%			
Weighted Cost of Equity	7.34%			
Weighted Cost of Debt	0.62%			
WACC	7.96%			

Reasons for choosing the values which I chose:

I chose the T-bond over the T-bill because the bond will have a period greater than 1 year whereas the bill is less than a year and that is why the market risk premium is 5.25%.

The risk-free rate we chose is 10 years rate of the t-bond because it is considered as the safest investment and investor can make.

I found the market capitalization by multiplying the share price with the number of shares in the market.

We then add both the market capitalization and the total debt to find out the weights of equity and debt of the company and then we find the WACC using the weighted cost of equity and debt.