

Life Cycle Cost Worksheet

20 <--Yellow Boxes Are For Data

Discount Rate (%)-->

12%

Project Life (35 yrs max)-->

20

Tax F

\$0

<--Net Present Value

\$0

<--Internal Rate

Capital Costs:	0	1	2	3
Capital Acquisition Costs				
Acquisition Costs:				
Program Management Costs				
Engineering Design Costs				
Engineering Data Costs				
Spare Parts & Logistics Costs				
Facilities & Construction Costs				
Initial Training Costs				
Technical Data Costs				
Documentation Costs				
Annual recurring costs				
Other periodic costs				
Disposal Costs				
Savings:				
Annual Savings (use positive #s)				

NPV & IRR Calculations:	0	1	2	3
Capital equipment	\$0			
Costs	\$0	\$0	\$0	\$0
Savings		\$0	\$0	\$0
Straight Line Depreciation		\$0	\$0	\$0
Profit Before Taxes	\$0	\$0	\$0	\$0
Tax Provision @ 38% Of Profit Before Tax	\$0	\$0	\$0	\$0
Net Income can be profit or loss	\$0	\$0	\$0	\$0
Add Back Depreciation		\$0	\$0	\$0
Cash Flow (Net Income + Depreciation)	\$0	\$0	\$0	\$0
Discount Factors @ 12%	1.0000	0.8929	0.7972	0.7118
Present Value	\$0	\$0	\$0	\$0
Net Present Value	\$0			
Internal Rate Return				

<--Requires at least one positive and one negative number in t

Year-->	0	1	2	3
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| Exceeds
Project Life |
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25	26	27	28	29	30	31
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Life Cycle Cost Worksheet

Yellow Box

<--Yellow Boxes Are For Data Input

Discount Rate (%)-->

12%

Project Life (35 yrs max)-->

20

Tax Provision (%)-->

\$3,109,654

<--Net Present Value

25.00%

<--Internal Rate Of Return

Capital Costs:	0	1	2	3	4
Capital Acquisition Costs	\$3,497,367				
Acquisition Costs:					
Program Management Costs					
Engineering Design Costs					
Engineering Data Costs					
Spare Parts & Logistics Costs					
Facilities & Construction Costs					
Initial Training Costs					
Technical Data Costs					
Documentation Costs					
Annual recurring costs					
Other periodic costs					
Disposal Costs					
Savings:					
Annual Savings (use positive #s)		\$1,319,500	\$1,319,500	\$1,319,500	\$1,319,500

NPV & IRR Calculations:	0	1	2	3	4
Capital equipment	\$3,497,367				
Costs	\$0	\$0			
Savings		\$1,319,500	\$1,319,500	\$1,319,500	\$1,319,500
Straight Line Depreciation		\$174,868	\$174,868	\$174,868	\$174,868
Profit Before Taxes	\$0	\$1,144,632	\$1,144,632	\$1,144,632	\$1,144,632
Tax Provision @ 38% Of Profit Before T	\$0	-\$434,960	-\$434,960	-\$434,960	-\$434,960
Net Income can be profit or loss	\$0	\$709,672	\$709,672	\$709,672	\$709,672
Add Back Depreciation		\$174,868	\$174,868	\$174,868	\$174,868
Cash Flow (Net Income + Depreciation)	-\$3,497,367	\$884,540	\$884,540	\$884,540	\$884,540
Discount Factors @ 12%	1.0000	0.8929	0.7973	0.7118	0.6359
Present Value	-\$3,497,367	\$789,768	\$709,672	\$635,923	\$569,753
Net Present Value		\$3,109,654			
Internal Rate Return		25.00%			

<--Requires at least one positive a

Question: How much capital ca
Given a 20 year project life, 12%
Hint:
1) Input annual savings of \$1,3'
2) Put \$1 in cell D5 for initializin
Set the iterative process for '
change calculations to **Auto**
3) Click on cell F3 for IRR and r
Excel needs to work on a fo
4) Click on **Tools**, click on **Goal**
set cell: C34 <--remember
to value: 25% <--you can e
by changing cell: D5. <--w
Click **OK** and Goal Seek v
By convention, the IRR is based

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Life Cycle Cost Worksheet

12%

<--Yellow Boxes Are For Data Input

Discount Rate (%)--> **12%**

Project Life (yrs)--> **20**

Tax Provision (%)--> **38%**

-\$125,465 <--Net Present Value

<--Internal Rate Of Return

Capital Costs:	0	1	2	3	4	5
Capital Acquisition Costs	\$75,000					
Acquisition Costs:						
Program Management Costs						
Engineering Design Costs						
Engineering Data Costs						
Spare Parts & Logistics Costs						
Facilities & Construction Costs						
Initial Training Costs						
Technical Data Costs						
Documentation Costs						
Annual recurring costs		\$12,264	\$12,264	\$12,264	\$12,264	\$12,264
Other periodic costs						
Disposal Costs						
Savings:						
Annual Savings (use positive #s)						

Given a 20 year project life, 12% discount rate, and 38% Tax Provision. Equipment cost \$75,000. Annual sustaining cost = \$12,264. Disposal costs = \$5,000 in year 20.

What is the net present value of the project? NPV= find the most favorable NPV (this often means selection of the alternative with the most positive NPV). If you have two negative NPV's from two alternatives, you would select the alternative with the most positive NPV "delta" between the alternatives.

NPV & IRR Calculations:	0	1	2	3	4	5
Capital equipment	\$75,000					
Costs	\$0	\$12,264	\$12,264	\$12,264	\$12,264	\$12,264
Savings		\$0	\$0	\$0	\$0	\$0
Straight Line Depreciation		\$3,750	\$3,750	\$3,750	\$3,750	\$3,750
Profit Before Taxes	\$0	-\$16,014	-\$16,014	-\$16,014	-\$16,014	-\$16,014
Tax Provision @ 38% Of Profit Bef	\$0	\$6,085	\$6,085	\$6,085	\$6,085	\$6,085
Net Income can be profit or loss	\$0	-\$9,929	-\$9,929	-\$9,929	-\$9,929	-\$9,929
Add Back Depreciation		\$3,750	\$3,750	\$3,750	\$3,750	\$3,750
Cash Flow (Net Income + Deprecia	-\$75,000	-\$6,179	-\$6,179	-\$6,179	-\$6,179	-\$6,179
Discount Factors @ 12%	1.0000	0.8929	0.7972	0.7118	0.6355	0.5674
Present Value	-\$75,000	-\$5,517	-\$4,926	-\$4,398	-\$3,927	-\$3,506
Net Present Value						
Internal Rate Return						

-\$125,465

<--Requires at least one positive and one negative number in the pr

6	7	8	9	10	11	12	13	14
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3% tax rate.

2,264/yr. Overhaul cost = \$20,000 in year 10. Disposal

=\$125,465) and must be compared to other alternatives to
 n of the **LEAST** negative NPV). Remember when you
 ould select the least negative, and you will then have a

\$12,264	\$12,264	\$12,264	\$12,264	\$12,264	\$12,264	\$12,264	\$12,264	\$12,264
				\$20,000				

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6	7	8	9	10	11	12	13	14
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\$12,264	\$12,264	\$12,264	\$12,264	\$32,264	\$12,264	\$12,264	\$12,264	\$12,264
\$0								
\$3,750	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750
-\$16,014	-\$16,014	-\$16,014	-\$16,014	-\$36,014	-\$16,014	-\$16,014	-\$16,014	-\$16,014
\$6,085	\$6,085	\$6,085	\$6,085	\$13,685	\$6,085	\$6,085	\$6,085	\$6,085
-\$9,929	-\$9,929	-\$9,929	-\$9,929	-\$22,329	-\$9,929	-\$9,929	-\$9,929	-\$9,929
\$3,750	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750
-\$6,179	-\$6,179	-\$6,179	-\$6,179	-\$18,579	-\$6,179	-\$6,179	-\$6,179	-\$6,179
0.5066	0.4523	0.4039	0.3606	0.3220	0.2875	0.2567	0.2292	0.2046
-\$3,130	-\$2,795	-\$2,495	-\$2,228	-\$5,982	-\$1,776	-\$1,586	-\$1,416	-\$1,264

resent value row 32

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