## Review Classmates: Module 2 Mini-Project

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| --- | --- |
| **Reviews** | 17 complete |

**Well done!**

You've sent 17 classmates valuable feedback that will help them improve. You can review another submission below or you can continue the course.

Evaluate investment options for Cut Here, Inc.



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Submitted on April 28, 2016

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### Part 1

Cut Here, Inc. is considering a new video rendering system for their in-house studio. Currently, there are two options. Each option involves a significant investment in an asset that has a multi-year useful life. The key benefits of each option are cash savings, which Cut Here equates to cash inflows (i.e., compared to the status quo scenario, in which it incurs significant costs in terms of labor, time, etc.).

Use the cash flow information provided in the Assignment Details section of the **Instructions** tab.

Then, use the following measures to assess the two options from a financial perspective. That is, compute the following measures for each option.

* Payback
* Accounting rate of return
* Net present value
* Internal rate of return

**Payback**  
##########  
In the provided scenarios, it is not mentioned whether the cash inflows happen at the end of the year or evenly distributed throughout the year. So we'll consider two cases here.  
  
**Case 1: Cash Inflow at the end of the year**  
**---------------------------------------------------------**  
**Option A**  
Outflow= $100,000  
Inflow after Year 1 = $10,000  
Inflow after year 2 = Inflow after year 1 + Inflow after year 2 = $10,000 + $50,000 = $60,000  
Similarly, Inflow after year 3 = $80,000 and year 4 = $150,000  
Takes 4 years to recover the initial investment amount.  
**Payback period for Option A = 4 years**  
  
**Option B**  
Outflow= $250,000  
Inflow after Year 1 = $1,000  
Inflow after year 2 = Inflow after year 1 + Inflow after year 2 = $1,000 + $2,000 = $3,000  
Similarly, Inflow after year 3 = $6,000 ; year 4 = $7,000 ; year 5 = $27,000 ; Year 6 = $417,000  
Takes 6 years to recover the initial investment amount.  
**Payback period for Option B = 6 years**  
  
**Case 2: Cash Inflow evenly distributed throughout the year**  
**---------------------------------------------------------------------------------**  
**Option A**  
In the previous case, we saw the cash inflow during the 4th year negated the outflow i.e. the investment.  
Total inflow after year 3 = $80,000  
Required inflow after year 3 = $20,000  
Inflow in year 4= $70,000  
Therefore, time to recover investment in year 4 = $20,000/$70,000 = 0.2857 ~ 0.29  
**Payback period for Option A = 3.29 years**  
  
**Option A**  
In the previous case, we saw the cash inflow during the 6th year negated the outflow i.e. the investment.  
Total inflow after year 5 = $27,000  
Required inflow after year 5 = $223,000  
Inflow in year 6= $390,000  
Therefore, time to recover investment in year 6 = $223,000/$390,000 = 0.57  
**Payback period for Option A = 5.57 years**  
  
**Accounting Rate of Return**  
########################  
  
**Option A**  
Outflow = $100,000  
Total Inflow = $240,000  
Depreciation expense for a period of 6 years = $100,000/6 = $16,666.67  
Average cash inflow for a period of 6 years = $240,000/6 = $40,000  
**Accounting Rate of Return for Option A** = ($40,000 - $16,666.67) / $100,000 = **23.33%**  
  
**Option B**  
Outflow = $250,000  
Total Inflow = $417,000  
Depreciation expense for a period of 6 years = $250,000/6 = $41,666.67  
Average cash inflow for a period of 6 years = $417,000/6 = $69,500  
**Accounting Rate of Return for Option B** = ($69,500 - $41,666.67) / $250,000 = **11.13%**  
  
**Net Present Value**  
#################  
  
**Option A**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Investment | 100000 |  |  |  |  |  |
| Rate | 10 | 10 | 10 | 10 | 10 | 10 |
| Return | 10000 | 50000 | 20000 | 70000 | 80000 | 10000 |
| Time | 1 | 2 | 3 | 4 | 5 | 6 |
|  |  |  |  |  |  |  |
| PV | 9090.909091 | 41322.31405 | 15026.29602 | 47810.94188 | 49673.70584 | 5644.739301 |

**NPV** = Summation of PVs - Investment = $168,568.9062 - $100,000 = **$68,568.91**  
  
**Option B**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Investment | 250000 |  |  |  |  |  |
| Rate | 10 | 10 | 10 | 10 | 10 | 10 |
| Return | 1000 | 2000 | 3000 | 1000 | 20000 | 390000 |
| Time | 1 | 2 | 3 | 4 | 5 | 6 |
|  |  |  |  |  |  |  |
| PV | 909.0909091 | 1652.892562 | 2253.944403 | 683.0134554 | 12418.42646 | 220144.8327 |

**NPV** = Summation of PVs - Investment = $238,062.2005 - $250,000 = **$(11,937.8)**  
  
**Internal Rate of Return**  
#####################  
  
**Option A**  
At 10% discount rate, the NPV = $68,568.91  
Using Similar Calculations,  
At 27%, NPV = $2,143.55  
At 28%, NPV = $(499.35)  
**IRR** = 27% + [2,143.55 / (2,143.55 + 499.35)] \* 1% = **27.81%**  
  
**Option B**  
At 10% discount rate, the NPV = $(11937.8)  
Using Similar Calculations,  
At 9%, the NPV = $1168.65  
**IRR** = 9% + [1168.65 / (1168.65 +11937.8)] \* 1% = **9.089%**

Read the response to Part 1 and assign points below. Be sure to see the detailed rubric on the Instructions tab before assigning points.

* 0 pts - 0 points: No answer, completely irrelevant answer.
* 5 pts - 5 points: Insufficient, incomplete, lacks supporting evidence.
* 7 pts - 7 points: Passing, meets expectations.
* 9 pts - 9 points: Well above average, exceeds expectations.
* **10 pts - 10 points: Superior performance, excellent.**

### Part 2

Based on what you calculated in Part 1, which option would you recommend to Cut Here management?

I would recommend the Internal Rate of Return (IRR) method. It gives the overall returns of a project while considering the time value of money. Decision makers talk in terms of percentage returns to evaluate multiple options.

Read the response to Part 2 and assign points below. Be sure to see the detailed rubric on the Instructions tab before assigning points.

* 0 pts - 0 points: No answer, completely irrelevant answer.
* 5 pts - 5 points: Insufficient answer, incomplete, lacks supporting evidence.
* **7 pts - 7 points: Passing, meets expectations.**
* 9 pts - 9 points: Well above average, exceeds expectations.
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### Part 3

Describe some of the strengths and weaknesses of your analysis (i.e., specific measures, etc.). Also, what other considerations might influence your recommendation?

**Strengths**  
Easier to evaluate multiple options using the IRR method. Decision makers talk in terms of percentage returns.  
IRR analysis takes into consideration the present value of money and cash flows. Higher case inflows during the initial period could be reinvested or used for daily operations.   
  
**Weakness**  
The IRR calculations assume that the cash inflow occurs evenly towards the end of the year.  
The cost of capital, i.e. the discount rate is considered at 10%. This could vary.  
  
**Other considerations**  
If cost of capital i.e. the discount rate is really low, at 1%, Option B gives better returns  
**At 1%, Option A NPV** = $131,133.93  
**At 1%, Option B NPV** = $143,250.4  
  
However, since majority of the cash inflow for Option B occurs towards the end of the period, we will need to consider factors such as product / service obsolescence when newer or more efficient product / services come in the market, and is the inflow guaranteed.

Read the response to Part 3 and assign points below. Be sure to see the detailed rubric on the Instructions tab before assigning points.

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Please provide any overall feedback that you have for the author of this assignment. What is one strength of the submission? What is one area of improvement that you would like to suggest?

Submit Review

Good job !!!

Kindly marking mine, thanks in advance...

<https://www.coursera.org/learn/managerial-accounting-tools/peer/crAeu/module-2-mini-project/discussions/threads/jBqzpFyDEeaCxw4CtnLVoQ>

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