## Review Classmates: Module 2 Mini-Project

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| **Reviews** | 15 complete |

**Well done!**

You've sent 15 classmates valuable feedback that will help them improve. You can review another submission below or you can continue the course.

Module 2



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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:**  
**Option A**  
1. 100,000 - 10,000 = 90,000  
2. 90,000 - 50,000 = 40,000  
3. 40,000 - 20,000 = 20,000  
4. 20,000 - 70,000 = -50,000  
Thus PB = 3 + 20,000/70,000 = ~3.286 years  
  
**Option B**  
1. 250,000 - 1,000 = 249,000  
2. 249,000 - 2,000 = 247,000  
3. 247,000 - 3,000 = 244,000  
4. 244,000 - 1,000 = 243,000  
5. 243,000 - 20,000 = 223,000  
6. 223,000 - 390,000 = -167,000  
Thus PB = 5 + 223,000/390,000 = ~5.572 years  
  
In case of inflow accurately in the end of each year - paybacks will happen in and of 4 and 6 years correspondingly.  
  
**Accounting rate of return:**  
**ARR for option A** = (240,000 - 100,000)/100,000 = 1.4 -> 140% over 6 years or ~23.33% accounting rate of return -> ((1 + 1.4)^1/6) - 1 = ~0.1571 - > ~15.71% Average Annual Rate of Return (rounded to two signs after comma)  
**ARR for option B** = (417,000 - 250,000)/250,000 = 0.668 ->% 66.8% over 6 years or ~11.13% accounting rate of return - > ((1 + 0.668)^1/6) - 1 = ~0.0890 -> ~8.9% Average Annual Rate of Return (rounded to two signs after comma)  
  
In this case AARR plays role of the Annual Efficient Rate of Return. Lets test it to be sure that mistakes weren't made:  
**Option A**  
FV = PV\*(1+r)^n = 100,000\*(1.1571^6) = ~240,000  
  
**Option B**  
FV = 2500\*((1.089^6) = ~417,000  
Results are not ideally accurate because of rounding the numbers to two signs after comma.  
  
**Net present value**  
For discounting, because of nothing is given, I took simply the average risk-free deposit rate of return in USA that is 6%. (Or it could be used return of US Treasuries for sure if nothing is given.) As we are not given by this information it is not very important witch discount rate to use for comparison of two option, because in any case (despite of case where both NPV are negative that leads to solution decline both or case) we will find witch is more profitable. Only one rule should be complied - take that discount rate that lies on the right side of crossing lines NVP/DR if it's exists in particular case (link to see **-** <http://hspm.sph.sc.edu/courses/econ/invest/npv4graph.gif>) . BUT in case if source of capital for investment is debt -> it's required to use not just some required rate of return but use exactly the cost of capital rate to figure out are any of options benefits exceed the cost of capital.  
  
**NPV Option A =** (10,000/(1+0.06)^1) + (50,000/(1+0.06)^2) + (20,000/(1+0.06)^3) + (70,000/(1+0.06)^4) + (80,000/(1+0.06)^5) + (10,000/(1+0.06)^6) - 100000 = 9,433.96 + 44,499.82 + 16,792.39 + 55,446.56 + 59,780.65 + 7,049.61 - 100,000 = 93002.99  
  
**NPV Option B =** (1,000/(1+0.06)^1) + (2,000/(1+0.06)^2) + (3,000/(1+0.06)^3) + (1,000/(1+0.06)^4) + (20,000/(1+0.06)^5) + (390,000/(1+0.06)^6) - 250,000 = 943.4 + 1779.99 + 2518.86 + 792.09 + 14945.16 + 274934.61 - 250000 = 45914.11  
  
**Internal Rate of Return**  
We can calculate IRR either by trial-and-errors approach or by, for example, Excel Spreadsheets. For purpose of time saving I'll calculate it in Excel and provide you guidance how to do that. (link - <https://support.office.com/en-us/article/IRR-function-64925eaa-9988-495b-b290-3ad0c163c1bc>)  
  
**IRR Option A** = 0.2780808736 -> ~27.81%  
**IRR Option B** = 0.0908663884 -> ~9.09%

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 will recommend Option A. It's more profitable from all perspectives, ARR, IRR, NPV, and ass well more low initial investment leads to lower risk, as well as remains could be invested elsewhere for purpose of diversification (if our company will have them in case if this money is not already taken debt). Also return of 8.9% (return of Option B) is possible to be found on the market with acceptable risk that makes acceptance of option B less attractive or even irrational if higher returns with similar risk could be found.

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?

1. Analysis doesn't include risk, so all recommendations were made with assumption that financial of both options 100% reliable.

2. Analysis doesn't include cost of capital. Will company use debt of own finances for the project. As we know company work in innovation and technology sector and that means debt could be more expensive in comparison with more common and less volatile business, such as utilities production on manufacturing that has lots of assets that will ensure low risk for investors what leads to lower interest rates. Because we are not given with this information we don't know what required rate of return have to be used - Must it be standard deposit rate or it should be high capital cost rate, that could exceed defined average annual rate of return.

3. With using NPV we always assume that it's lot's of next best opportunities that could be found on the market - if not, in case when company already have own free resources that are required - probably option B could be chosen because of bigger volume of future cash inflows during the same period.

4. Such a savings from the technology always estimated and we are not given is all data is "net savings" or just savings, because some maintenance and so on could be required during exploiting period that will decrease benefits from it in monetary term.

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

### Comments

Visible to classmates



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Kindly marking mine, thanks in advance... <https://www.coursera.org/learn/managerial-accounting-tools/peer/crAeu/module-2-mini-project/discussions/threads/jBqzpFyDEeaCxw4CtnLVoQ>