Lessons

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### Module 2 Review

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##### [**Peer Graded Assignment:**](https://www.coursera.org/learn/managerial-accounting-tools/peer/crAeu/module-2-mini-project) [Module 2 Mini-Project](https://www.coursera.org/learn/managerial-accounting-tools/peer/crAeu/module-2-mini-project)

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## Review Classmates: Module 2 Mini-Project

Review by July 20, 11:59 PM PDT

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| --- | --- |
| **Reviews** | 5 left to complete |

Module 2 Mini-Project



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Submitted on July 8, 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

Net present value

**#payback**

Let's start, first we should remember that payback measure is the way to know when we will refund the money that we invested, so we will start calculating when we will get it back.  
  
**Option A**  
  
Investment is 100,000 $ , from year 1 to 3 we will take back 80,000 $ , and there will be remaining 20,000 $ for year 4. So we can say it will take 4 years, but if we were to calculate it more precicley, assuming that the InFlows are equal for all the year,   
  
=20,000/70,000 = 0.285 year   
Or what it means 104 days rounded  
  
SO we can say that it will take us 3 years and 4 months to regain what we spend.  
  
  
**Option B**  
  
Well, it's quite obvious here that we can't get back our money before last year as all the cash inflows up to year 5 is only 27,000 $ , less than 11% of the main investement, and if we were to get it back in year 6 , we will have to wait for July , it means more than 5 and half years.  
  
=223,000/390,000 = 0.57 Rounded = 7 months  
  
And the result to the payback period that A is better as we will get back our money earlier by around 2 years.  
  
**#Accounting rate of return**  
  
Simply we need to calculate the average (in/out)flows and divide it by the main investment to check the the accounting rate. We will assume here that the Systems will stay working for the same 6 years as it's not mentioned.  
  
**Option A**   
  
Total Inflows ( Cash Savings ) / Time it will take = 240,000 $ / 6 Years = 40,000 $ per year  
  
System cost / System LifeTime = 100,000 $ / 6 Years = 16,667 $ per year Rounded   
  
ARR = ( 40,000 $ - 16,667 $ ) / System cost ( 100,000 ) = 23.33 % Rounded  
  
**Option B**  
  
Total Inflows ( Cash Savings ) / Time it will take = 417,000 / 6 years = 69,500 $ per year  
  
System cost / System LifeTime = 250,000 $ / 6 years = 41,667 $ per year Rounded   
  
ARR = ( 69,500 - 41,667 ) / System cost ( 250,000 ) = 11.13 % Rounded  
  
So the result that the return of System A is much more better and advised   
  
**#Net present value**  
  
As it was mentioned in the class, the IRR is 16 % and we will keep using it.  
  
The NPV of the investement will be the same as it's in year Zero, as for the inflows we should apply the formula = inv. amount / (1 + IRR ) ^n   
  
**Option A**   
  
Main investment $100,000.00 === $-100,000.00   
Year 1 $10,000.00 === $8,621  
 Year 2 $50,000.00 === $37,158  
 Year 3 $20,000.00 === $12,813   
Year 4 $70,000.00 === $38,660   
Year 5 $80,000.00 === $38,089   
Year 6 $10,000.00 === $4,104   
Total $39,446   
  
**Option B**  
  
Main investment $250,000.00 === $-250,000.00   
Year 1 $1,000.00 === $862 $ Rounded   
Year 2 $2,000.00 === $1,486 $ Rounded   
Year 3 $3,000.00 === $1,922 $ Rounded   
Year 4 $1,000.00 === $552 $ Rounded   
Year 5 $20,000.00 === $9,522 $ Rounded   
Year 6 $390,000.00 === $160,072 $ Rounded   
Total $-75,582.60   
  
  
**Internal rate of return**  
  
We need to calculate more than one NPV for the option to get the NPV with Zero result so it will show the neares IRR.  
  
**Option A**  
  
NPV for 17%

|  |
| --- |
| $ -100,000.00 |
| $ 8,547 |
| $ 36,526 |
| $ 12,487 |
| $ 37,356 |
| $ 36,489 |
| $ 3,898 |
| $ 35,303 Total  NPV for 18%   |  | | --- | | $ -100,000.00 | | $ 8,475 | | $ 35,909 | | $ 12,173 | | $ 36,105 | | $ 34,969 | | $ 3,704 | | $ 31,335 Total  and it shows we need to go a little bit far so we try more than one NPV until we find that the most suitable one is  NPV for 27%   |  | | --- | | $ -100,000.00 | | $ 7,874 | | $ 31,000 | | $ 9,764 | | $ 26,908 | | $ 24,214 | | $ 2,383 | | $ 2,144 Total | | |

and we can use more easier way to calculate through Spreadsheets like Excel, it will give us 27,8 % as the IRR for this Option  
  
  
**Option B**  
  
again here we will do the same,  
  
NPV for 15%

|  |
| --- |
| $-250,000.00 |
| $ 870 |
| $ 1,512 |
| $ 1,973 |
| $ 572 |
| $ 9,944 |
| $ 168,608 |
| $ -66,523 Total |

NPV for 13%

|  |
| --- |
| $ -250,000.00 |
| $ 885 |
| $ 1,566 |
| $ 2,079 |
| $ 613 |
| $ 10,855 |
| $ 187,324 |
| $ -46,677 Total |

NPV for 9%

|  |
| --- |
| $ -250,000.00 |
| $ 917 |
| $ 1,683 |
| $ 2,317 |
| $ 708 |
| $ 12,999 |
| $ 232,544 |
| $ 1,169 Total |

and it get us 9% as the best IRR, and if we did the same with Excel, it will give us roughly the same 9.1%

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 answer, 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?

well, first let us summarize the result   
  
**for payback**  
  
Option A = 4 years  
Option B = 6 years  
  
**for Accounting rate of return**  
  
Option A = 23.33 % Rounded  
Option B = 11.13 % Rounded  
  
**for NPV**  
  
Option A = $39,446   
Option B = $-75,582.60  
  
**for IRR**  
  
Option A = 27%  
Option B = 9%  
  
Actually the resulat here is so clear, System A is much more better and despite the huge cash flow in year 6 for system B, but it comes so late that makes it lose around 60% of it's value. For option A we will get our money earlier, Our NPV is positive and if our IRR is up to 27% we can still achieve it.

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.
* **10 pts - 10 points: Superior performance, excellent.**

### 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?

We shouldn't forget that for payback, it's not very precise as we are using accural basis not cash basis and that the value of the money will not stay the same year afte year. Also for NPV we didn't consider that maybe affected by inflation or the timing of cash inflows as we just assumed it will be at th end of the year but it may differ, or it will certainly can't be at the end of the year only. Also for ARR it's using cash basis which will not make it accurate.  
  
As for the strengths, The payback give us overview of how quick the company will get the money back, while the NPV will tell us how much we will really get back and if it suits us or we shouldn't accept it. And Our IRR will tell us of if the investment Return is good comparing to the company goals or no.  
  
The other consedration we should put in mind if there is qualtitive aspects, like the competion in the market and wether our competitors will be ahead of us and if the more expensive is the market trend, also we should look to our customers and what they do want, Also wether this can affect our image in the market as leeaders our whatever our place in the market, some times we should lose to keep us in our reputation, and the famous Nokia is an example, they didn't think ahead and thought they are just very good, and suddenly they moved from op to down.

Read the response to Part 3 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.
* **10 pts - 10 points: Superior performance, excellent.**

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?

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### Comments

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