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## Review Classmates: Module 2 Mini-Project

Review by July 20, 11:59 PM PDT

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| --- | --- |
| **Reviews** | 1 left to complete |

Assignment Week 2: Cut Here inc. video rendering.



by Gunther Van der Maelen

Submitted on July 5, 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

**1.A Payback Period.**

Payback period for option A = 3 years + (20,000/70,000) = 3,29 years.

Payback period for Option B = 5 years + (250,000 – 27,000) / 390,000 years. = 5,57 years.

**1,B Accounting Rate of Return.**

ARR for option A:

* average annual cost = 100,000$ / 6 years = 16,667$.
* Average annual savings = 240,000$ / 6 years = 40,000$
* ARR = (average annual savings – average annual cost) / investment amount = (40,000-16,667) / 100,000 = 23,33%

ARR for option B:

- average annual cost = 250,000$ / 6 years = 41,667$.

- Average annual savings = 417,000$ / 6 years = 69,500$

- ARR = (average annual savings – average annual cost) / investment amount = (69,500-41,667) / 250,000 = 11,13%

**1.C Net Present Value.**

Net Present Value = Future Value / (1 + rate ) \*\* number of years

Unfortunately, the discount rate is not mentioned in the project statement. Yet,the mentor noted 10% in the discussion forum.

Option A:

Cash flow present value

Immediate Outflow (100,000 $)

Y1 10,000 9,091$

Y2 50,000 41,322$

Y3 20,000 15,026$

Y4 70,000 47,811$

Y5 80,000 49,674$

Y6 10,000 5,645$

The Net present value = 68,569$ for option A.

Option B:

Cash flow present value

Immediate Outflow (250,000 $)

Y1 1,000 909$

Y2 2,000 1,653$

Y3 3,000 2,254$

Y4 1,000 683$

Y5 20,000 12,418$

Y6 390,000 220,145$

The Net present value for option B = (11,938)$.

**1.D Internal Rate of Return.**

The IRR calculates the discount rate for which the Net present Value would be zero.

For option A: that rate would be 27.808%

Cash flow present value at 27.808%

Immediate Outflow (100,000 $)

Y1 10,000 7,824$

Y2 50,000 30,609$

Y3 20,000 9,580$

Y4 70,000 26,234$

Y5 80,000 23,458$

Y6 10,000 2,294$

The sum of the present values of years 1-6 match exactly the initial investment of 100,000$.

For option B: the IRR = 9.08665%

As 10% rate resulted in slght negative NPV, then a slightly lower IRR than 10% is expected.

Cash flow present value

Immediate Outflow (250,000 $)

Y1 1,000 917

Y2 2,000 1,681

Y3 3,000 2,311

Y4 1,000 706

Y5 20,000 12,947

Y6 390,000 231,438

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?

NPV and IRR methods do take in consideration the time element of cash flow and are as such more reliable methods of financial analysis. Both IRR and NPV generate more favourable results for option A.

On top of that even Payback and Accounting rate of return generate better rsults for option A.

Option A Option B

Payback. 3,29y 5,57y

ARR 23,33% 11,33%

NPV 68,569$ (11,938)$

IRR 27.808% 9.08665%

No discussion: for every method in consideration, option A is more favourable from financial point-of-view.

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?

**Payback Time:**

Advantages:

* - Simple
* - Indicator of cash availability. We know when the cash will be available again.
* - Risk indicator. The longer the payback takes, the more time the uncertainty of gaining back the investment will take.

Disadvantages:

* - No notion of profitability.
* - No time focus on cash flow.

**Accounting Rate of Return**

Advantages:

* - Simple
* - Based on accounting. It can be compared to accounting based rate-of-return.

Disadvantages:

* - No focus on cash flow.

**Net Present Value.**

Advantages:

* - Time value of money into account. Especially for lont-term projects.
* - Cash-based.
* - Allows comparability. Future cash flows can be compared to todays values.

Disadvantages:

* - Assumptions can lead to different results.
* - Timing of cash flows.
* - Uncertainty.
* - Rates are assumed. Different assumptions may lead to different results.

**Internal Rate of Return.**

Advantages:

* - Time value of money into account. Especially for lont-term projects.
* - Cash-based.
* - Easy to interpret and to compare options.

Disadvantages:

* - Assumptions can lead to different results.
* - Timing of cash flows.
* - Uncertainty.
* - Rates are assumed. Different assumptions may lead to different results.

**Not taken into account:**

any other factor than financial factors: such as:

* effects on labour workers: does option A or option B lead to discharge of staff and potential strikes.
* environmental issues: option B may use more environment friendly technologies which do not yet pay-off.
* option B may rely on transport on water instead of road transport by truck, which is much more subject to traffic jams.

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?

Submit Review

### Comments

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