Module 5: Option #1

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Module 5 was focused on capital budgeting and the tools needed to analyze and compare multiple capital budgeting projects. In this critical thinking assignment, net present value and internal rate of return of two projects that GS Fishing is considering, are compared.

**If each project's cost of capital is 12%, which project should be selected? If the cost of capital is 18%, what project is the proper choice?**

Project A has an initial startup fee of $375 and cash flows thereafter of -$300, -$200, -$100, $600, $600, $926 and -$200. Project B has an initial startup fee of $575 and cash flows thereafter of $190, $190, $190, $190, $190, $190 and $0. In order to determine which project should be selected for each cost of capital, we must calculate net present value for each project at each cost of capital. The formula for net present value is as follows (What is Net Present Value, 2020):

NPV = (Cash flows)/(1+r)t

I = initial investment

Cash Flows = Cash flows in the time period

R = discount rate

T = time periods

All of this can simply be plugged into the NPV function in an Excel spreadsheet. The result shows that Project A is a better choice with a NPV of $202.65 if cost of capital is 12% and Project B is a better choice if cost of capital is 18% with a NPV of $75.89. For additional reference, at 12%, NPVB was equal to $184.10 and at 18%, NPVA was equal to $15.46.

**Construct NPV profiles for Projects A and B**

The data for this NPV profile is found in the excel spreadsheet. It was calculated by finding the NPV for both Project A and Project B at various discount rates, ranging from 0% to 30%.

**What is each project's IRR?**

IRR is calculated by setting NRV equal to zero and then solving for the discount rate (Hayes, 2020). It can also be solved by using the IRR formula in Excel and combining all the cash flows. The results showed a 19% IRR for Project A and a 24% IRR for Project B.

**What is the crossover rate, and what is its significance?**

Looking at the graph, we can see that the crossover rate is around 13%. This means that a discount rate higher than the crossover rate favors Project B, whereas a discount rate lower than the crossover rate favors Project A. In other words, if the discount rate is 12% or less, GS Fishing should choose Project A. Otherwise, GS Fishing should choose Project B to pursue.

References

Hayes, A. (2020). Internal Rate of Return. *Investopedia.* Retrieved from https://www.investopedia.com/terms/i/irr.asp

What is Net Present Value? (2020). *Clear Tax.* Retrieved from <https://cleartax.in/s/npv-net-> present- value#:~:text=It%20is%20calculated%20by%20taking,flows%20at%20a%20specified% 20rate.