

Managerial accounting problem

Business



Managerial Accounting Problem In order to calculate the before tax NPV and advise the managers of Deer Valley about whether adding the lift will be a profitable investment, I need to calculate all the annual net cash flows from the lift during its life time value (20 years) and find the present value of their sum using the before-tax required rate of return of 14%. The difference between the PV of all net cash flows from investment and required capital expenditures equals to NPV of this project. If it is positive the management should pursue the project. If it is negative the management should decline it.

When calculating the net cash flows from the lift, I used the following numbers:

Revenues = $\$55 \times 300 \times 40 \text{ days} = \$660,000$

Fixed cost of running the lift = $\$500 \times 200 \text{ days} = \$100,000$

Added cash expense = $\$5 \times 300 \times 40 \text{ days} = \$60,000$

Capital expenditures = $\$2,000,000 + \$1,300,000 = \$3,300,000$.

Depreciation is not included in computations because it is not a cash flow.

Depreciation only influences net income through taxes, but because I compute before-tax NPV, this doesn't matter. The net cash flow from each year is identical, so the present value of all cash flows can be calculated as PV of annuity with annual payment of 500,000 for 20 years.

Table 1 shows the computation of before-tax NPV of the new lift.

NPV is positive, so management should pursue the project.

2. When calculating after-tax NPV of the new lift, I continue using the data calculated in task #1, but expand it to include the effect of taxes.

Depreciation is included in costs this time because it influences the income after tax and therefore the final cash flow. Depreciation is calculated based

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on MACRS recovery period of 10 years (taken from Table 6. 4. on p. 122, Brealey, Myers & Allen, 2006).

The after-tax required return of 8% is used to calculate the net present value of cash flows from the project. Because the net cash flows for periods 12 - 20 are identical, I first found their net present value at the beginning of the 12th period and then discounted them back to period 0.

Table 2 on the next page shows the computation of before-tax NPV of the new lift. It is positive, so management should pursue the project.

3. There is a number of subjective factors that can affect the investment decision apart from NPV of the project. They can include unfavorable marketing forecast research that projects decrease of skiers in Wasatch Mountains of Utah, limiting further investment opportunities due to this project (in several years there can be a better project proposed, while the space would be already occupied by the present project), overall company's strategy (whether it aims at expansion in Wasatch Mountains of Utah or just sustainability of its current positions), etc.

Table 2. Computation of before-tax NPV of the new lift

References

Brealey, R., Myers, S., & Allen, F. (2006). *Corporate Finance*. New York: McGraw-Hill/Irwin.