

Present value essays examples

[Business](#), [Company](#)



Introduction

This report is about the evaluation of an attractiveness of one project of Wall-Mart using different methodologies and measures taking into account different theories. The main purpose of this investigation is determination of the advantages and disadvantages of the different methods and it is necessary to make a decision about investment in this Wall-Mart project using all computed values.

Present value is a parameter which reflects the present value of future cash flows that have been discounted. To calculate a present value it necessary to use the following formula:

Present Value = $\sum_{i=1}^n \frac{CF_i}{1+r^i}$,

where n is number of periods,

r is a discount rate,

CF is the cash flows for corresponding period.

The cost of capital or discount rate is equal to 12.5%.

Present Value = $2\,000\,000 \cdot \frac{1}{1+0.125} + 3\,500\,000 \cdot \frac{1}{(1+0.125)^2} + 13\,500\,000 \cdot \frac{1}{(1+0.125)^3} + 89\,750\,000 \cdot \frac{1}{(1+0.125)^4} + 115\,000\,000 \cdot \frac{1}{(1+0.125)^5} + 120\,000\,000 \cdot \frac{1}{(1+0.125)^6} = 193\,064\,426.72$

Net Present Value

Net Present Value = Present Value - Initial Cash Outflow;

Net Present Value = $193\,064\,426.72 - 125\,000\,000 = 68\,064\,426.72$.

Net present value is a parameter that can have negative and positive values.

When a net present value is positive, the project is perspective and profitable. The project with highest net present value has highest probability to be accepted by the management of a company, but the final decision depends on the specific requirements to the project as the payback period etc. Considering the amounts of initial costs, of cash flows and the net present value, this project should be accepted as the project with good profitability.

Profitability Index

This index is the next parameter that is related to present value and to net present value methodology, but this parameter is a ratio. The following formula is used to calculate this index:

Profitability Index= Present Value/Initial Cash Flows;

Profitability Index= 193 064 426. 72125 000 000= 1. 545;

This rate describes more accurately the profitability of the project. As the rate is higher than 1, the project can be accepted. If the rate had been lower than 1, the company could have incurred losses.

Regular Payback Period

The regular payback period is the period that is required to cover the initial cash outflow. The most short payback period is more desirable for investors. The regular payback period is a value that does not take into account the time value of money theory. The next table is used to calculate the regular payback period:

The regular payback period is equal to 5 years. If the company has a

requirement that the investments have to be paid back within 3 year, this project cannot be accepted.

Discounted Payback Period

Discounted payback period is the period that is required to cover the initial cash outflow, but this method takes into account the time value of money theory and it is necessary to use the discount rate to calculate this period.

The table below contains all needed computations:

This period is equal to 5 years. The discounted payback period is longer than the regular payback period and also does not corresponding to the requirement of the company that the initial costs have to be paid back within 3 years. The project cannot be accepted by the managers of this company.

Internal Rate of Return

Internal rate of return is such rate, when the net present value is equal to zero.

Net Present Value= Present Value-Initial Cash Outflow= 0;

Net Present Value=

$$2\,000\,000(1+IRR)^{-1} + 3\,500\,000(1+IRR)^{-2} + 13\,500\,000(1+IRR)^{-3} + 89\,750\,000(1+IRR)^{-4} + 115\,000\,000(1+IRR)^{-5} + 120\,000\,000(1+IRR)^{-6} - 125\,000\,000 = 0.$$

Internal rate of return is equal 23. 2%. As the discount rate in the project is equal 12. 5% and it is significantly lower than the internal rate of return, the project is profitable. This project should be accepted.

Modified Internal Rate of Return

Modified internal rate of return is the next measure for investment evaluation. To compute the modified internal rate of return it is necessary to assume that the positive cash flows will be reinvested at the cost of capital rate (12.5%). The next formula is applicable to calculate this rate:

$$\text{MIRR} = \sqrt[n]{\frac{\text{Future Value}}{\text{Initial Cash Outflow}}}$$

$$\text{Future Value} = \sum_{i=1}^n \text{CF}_i \cdot (1+r)^{n-i}$$

$$\begin{aligned} \text{Future Value} = & 2000000 \cdot (1+0.125)^5 + 3500000 \cdot (1+0.125)^4 + 13500000 \cdot (1+0.125)^3 \\ & + 89750000 \cdot (1+0.125)^2 + 115000000 \cdot (1+0.125)^1 + 120000000 = \\ & 391\,396\,911.6 \end{aligned}$$

$$\text{MIRR} = \sqrt[5]{\frac{391\,396\,911.6}{125\,000\,000}} \cdot 100\% = 20.95\%$$

The rate is positive and enough high. The project should be accepted.

Conclusions

The results of this assignment are the table that describes the advantages and disadvantages of each evaluation methodology. Unfortunately, all methodologies have the disadvantages and are not perfect. But considering all methodologies and values, it is possible to make right decision. This project of Wall-Mart should be accepted unless this company has the requirement that the investment have to be paid back within 3 years.

Reference list

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Technics, 2th Edition.

Appendix

Table 5