

# [Net cash flow task 2](https://assignbuster.com/net-cash-flow-task-2/)

Net Cash Flow Task A Task A, which needs to be completed in order to do the questions in Task B, was completed using MS-Excel. The results are shownin Schedule – I.   
Task B   
1. Correct Net cash flow for Year 2 if depreciation = 0   
Q. 1. Identify what the correct net cash flow for the second year would be if all cash expenses were as described in the scenario but there were no depreciation expense.   
a. Explain the impact of depreciation on net cash flow for the second year.   
Answer: Net Income after taxes for year 2 = 259, 000   
Depreciation expense considered = 330, 000   
If depreciation = 0, additional tax at marginal rate of 30% on the additional income of 330, 000 = 0. 3 x 330, 000 = 99, 000   
Net Income after taxes would become 259, 000 – 99, 000 = 160, 000   
Net cash flow = 160, 000 + 330, 000 = 490, 000   
a) Depreciation is a non-cash charge and as such has no impact on the cash flow by itself. However, the net income for the year is calculated by charging depreciation along with other cash expenses, and this figure of net income is used for calculating income tax liability. If the depreciation for the second year becomes zero, the net income for tax purposes goes up correspondingly, resulting in higher tax payment and lower cash flow.   
2. Recommendation of appropriate action based on NPV   
Q. 2: Based upon your NPV analysis in part A2, make a recommendation to Person K regarding what decision to make.   
a. Explain why this is an appropriate action.   
Answer: The Net present Value at a discount rate of 12% is 136, 233. The action recommended is that Person K should not invest in this project.   
a) Explanation for the recommendation: The Net Present value is positive at the cost of capital to the company, and hence qualifies for investment. However, the Net Present Value is very low. There are two reasons why Person K should not invest in a project with such a low NPV. The first is that other projects are likely to be available in the market that can give a higher NPV. Investing in this project has an opportunity cost equal to the return obtainable from those projects. Secondly, such a low NPV would leave little room for risks, and would be extremely sensitive. For example, if the expected sales fall by 10%, the project might show a negative NPV. Hence it is not advisable to invest in this project.   
3. Recommendation based on IRR   
Q 3: Based upon your IRR analysis in part A3, make a recommendation to Person K regarding what decision to make.   
a. Explain why this is an appropriate action.   
Answer: The IRR for the project is 13. 31%, which is higher than the cost of capital by 1. 31%. For reasons similar to those advanced in the case of recommendation based on NPV above, the recommendation is that Person K should not invest in this project   
a) Rationale for recommendation: The IRR for the project is 13. 31%, which is just marginally higher than the cost of capital. If Person K had an unlimited amount of money to invest, this project would qualify for investment. However, in a situation where there is a limited amount of capital to be invested, the returns should be maximized, and investing in low yielding projects would deprive Person K of the opportunity to invest in alterative high yielding projects. Secondly, the sensitivity of the project to variations in the assumptions would be very high, and small changes in the assumption would upset the entire calculation.   
4. Why Accounting rate of Return is different from the Internal Rate of return   
Q. 4: Explain why the accounting rate of return on this project is different from the internal rate of return for the same capital investment.   
Answer: Internal Rate of Return is the rate at which the Net Present Value becomes equal to 0. Accounting Rate of Return is the average net income from the project divided by the investment. Conceptually the two figures are very different. Internal rate of Return considers the actual cash flows, including the initial investment, whereas Accounting Rate of Return considers the Profit for each period after charging depreciation on the assets procured with the initial investment. Secondly, Internal Rate of Return considers the time value of the cash flows, whereas Accounting Rate of Return ignores the time value altogether and considers only the absolute figure.   
5. Relative Significance of Unadjusted payback   
Q. 5: Explain the relative significance of the unadjusted payback period in this decision situation.   
Answer: Unadjusted payback is a very rough measure that can only act as a quick guide rather than as a rigorous method of calculating the returns. The unadjusted payback period of 4 years and 9 months shows that the entire investment would be recovered in the fifth year. Since the expected project life is 8 years, this indicates a comfortable situation. However, since this method ignores the time value of money and considers accounting profit rather than actual cash flows, it is less reliable. Based only on the unadjusted payback period, one might come to the conclusion that the project is worth investing in, whereas a consideration of NPV and IRR show otherwise.   
6. Using weighted average cost of capital in NPV   
Q. 6: Explain how the weighted average cost of capital should be used in capital budgeting analysis when utilizing the NPV method.   
Answer: The weighted average cost of capital is used as the discounting factor to arrive at the Net present Value of the project. If the Net Present Value at a discounting rate equal to the cost of capital to the company is positive, it indicates that the project is generating more than the minimum required return, which is represented by the cost of capital.   
7. Using weighted average cost of capital with IRR   
Q. 7: Explain how the weighted average cost of capital should be used in capital budgeting analysis when utilizing the IRR method.   
Answer: The Internal rate of return is a rate akin to the cost of capital. Hence, unlike in the case of NPV, in this case, the cost of capital cannot be used to compute the IRR. However, once the IRR is computed, it can be compared with the cost of capital. If the IRR is higher than the cost of capital, the project is viable, because it is earning more than the minimum require rate of return.   
Schedule – I   
Excel working Sheet   
Person K   
Net Cash Flow per Year   
Years 1-3   
Years 4-6   
Years 7-8   
Expected annual cash receipts from sales   
3, 200, 000   
3, 600, 000   
3, 800, 000   
Expected annual costs of new product   
Cash expenses   
2, 500, 000   
2, 800, 000   
3, 200, 000   
Depreciation expense   
330, 000   
330, 000   
330, 000   
Income before taxes   
370, 000   
470, 000   
270, 000   
Income tax at 30% marginal rate   
111, 000   
141, 000   
81, 000   
Net income   
259, 000   
329, 000   
189, 000   
Net cash flow per year   
589, 000   
659, 000   
519, 000   
Net Present Value:   
Present   
Cash Flows   
PV Factors   
Value   
Year 1   
589, 000   
0. 8929   
525, 918   
Year 2   
589, 000   
0. 7972   
469, 551   
Year 3   
589, 000   
0. 7118   
419, 250   
Year 4   
659, 000   
0. 6355   
418, 795   
Year 5   
659, 000   
0. 5674   
373, 917   
Year 6   
659, 000   
0. 5066   
333, 849   
Year 7   
519, 000   
0. 4523   
234, 744   
Year 8   
519, 000   
0. 4039   
209, 624   
Working Capital return   
210, 000   
0. 4039   
84, 819   
Salvage return   
60, 000   
0. 4039   
24, 234   
Remodeling cost   
(120, 000)   
0. 4039   
(48, 468)   
Total   
3, 046, 233   
Investment   
(2, 910, 000)   
Net Present Value   
136, 233   
Internal Rate of Return:   
Cash Flows   
Investment   
(2, 910, 000)   
Year 1   
589, 000   
Year 2   
589, 000   
Year 3   
589, 000   
Year 4   
659, 000   
Year 5   
659, 000   
Year 6   
659, 000   
Year 7   
519, 000   
Year 8 + Working Capital + Salvage - Remodeling   
669, 000   
Internal Rate of Return using Excel   
13. 310%   
Accounting Rate of Return   
21. 19%   
Payback Period:   
Net   
Remaining   
Cash Flow   
Investment   
Investment   
2910000   
2910000   
Year 1   
589000   
2321000   
Year 2   
589000   
1732000   
Year 3   
589000   
1143000   
Year 4   
659000   
484000   
Year 5   
659000   
-175000   
Payback period is   
4 Years, 9 Months   
  
References   
Investopedia (2009). Accounting Rate of Return. Retrieved on May 13, 2009 from http://www. investopedia. com/terms/a/arr. asp