

Q1

For the first question, we were asked to find the incremental cashflows of Alternium.

For this, firstly, I calculated all the revenues of Universal Swap i.e, one that includes revenue earned from Alternium and one that doesn't.

Additional information about the growth of international participants was provided and hence a separate table for calculating the revenue by additional international students was formulated.

The Flat Rate and Service Charges make up the revenues for each year for all participants.

Other Cashflows from Server Facilities, General and Administrative Expenses, Advertising Expenses, Working Capital etc., were computed and then presented in two separate sheets.

The data is computed for 20 years assuming that the business goes on that long so as to help in the calculations for Q3.

Assumptions:

1. I have assumed that the server renews itself every year i.e., every year we have 100% server to utilize.
2. The 10% of G&A Expense allocated for Alternium and the \$40 Million raised are same
3. Depreciation has no tax benefit and is added to the gross cost.

Q2.

For this question, all the inflows and outflows are laid out in a horizontal format and the gross cashflows are calculated; after which the tax is deducted and the net cashflows are obtained, i.e, After Tax Incremental Cashflow.

These cashflows were discounted at the rate of 11% p.a and the sum of their present values gives us the Net Present Value (NPV) of this project, which amounts to \$22.927 Billion. The Goal Seek function of Excel was then used to find out the Internal Rate of Return (IRR) of the project, which comes out to 276%.

The same method was used for creating a NPV profile in which varying discount rates ranging from 5% to 50% were used.

The NPVs were then compiled in a table and compared via a Scatter Chart.

Assumptions:

1. I assumed that all cashflows of this project took place at the end of the year i.e., in arrears.

Q3.

Since we had computed data for up to 20 years in the beginning, it was easier to calculate the NPV and IRR for this question. The same methods as Question 2 were used after calculating the revenue and cashflows for an extended period.

The NPV for this extended period project amounts to \$61.172 Billion and the IRR stands at 368%.

Assumptions:

1. Depreciation provides no benefit in taxes and is added to the Gross Cost.
2. The introductory asset is sold at the same book value, as Q1, at the end of the 20th year.
3. All Cashflows took place at the end of the year i.e., in arrears.
4. Cost of Capital remains the same throughout.