

Investment Analysis Case study

Universal Swap - Liquidity pools

Questions on the Project Cash Flow Analysis


1) Estimate the after-tax incremental cash flows from the proposed Alternium pool to Universal Swap over the next 10 years.

 I began by calculating the market potential for the next 10 years of the :

- US and Russian participants (5% growth)
- International participants (10% growth)
- International participants who choose plan only with Alternium (8% growth)

 After that I calculated the amount of revenue received

For the same I used the formulae:


 (Population of each category) * (Flat exchange charge - Cost of Servicing them)

Revenue generated from each category:

- US and Russian participants = \$5444.348 Million
- International participants = \$5779.477 Million
- International participants who choose plan only with Alternium = \$245.912 Million

So we can see that even though the cost of servicing is higher for international participants still the revenue generated from them is higher because the anticipated population growth is higher leading to economies of scale

Total Revenue (by end of 2032) : \$85037.65 Million

 Then I began calculating the expenses:

○ Research and development :

\$150 Million (irredeemable)

○ Introductory costs:

\$1000 Mil spent on infrastructure facing straight line depreciation for the next 10 years for \$80 Mil till its salvage value comes down to \$200 Mil

○ Server costs:

using cross multiplication calculated the estimate of population for which 100 % of server in Romania would be used. For a population of 46.154 Million 1 server can be used then a new server worth \$636.82 Million will have to be purchased in 2026

○ General and administrative expenses:

Calculate total G&A by :

Entire firms G&A + Allocation to Alternium + Alternium G&A

○ Advertising expenses:

An initial spending of \$500 Million with a growth of 5%

○ Working Capital

Calculated 5,6,10% of total revenue to obtain values for Accounts receivable, Inventory and Accounts payable respectively

Then I calculated WC using formula: Current Assets - Current Liabilities
= (Accounts Receivables + Inventory) - (Accounts Payables)

Total expenses : \$25326 Million

☑ Side benefit : Due to Alternium introduction there was a cost saving of \$30 million increasing at 3% per year

☑ After tax incremental cashflow:

Taxable income = Total Revenues - Total expenses

Tax = 10%

After tax incremental cashflows: Taxable income * (1 - 10%)

2) If the project is terminated at the end of the 10th year, and both working capital and investment in other assets can be sold for book value at the end of that year, estimate the net present value of this project to Universal Swap, a net present value profile and estimate the internal rate of return for this project.

☑ Calculated earning made from sale of asset and infrastructure on termination of project:

Sale of infrastructure: \$200 million

Sale of server : \$696.32 million

☑ Calculated total of expenses in the year 2022

☒ Calculated NPV profile

NPV (when cost of capital = 11%) = \$25782.575 million

On comparing for different rates of interest we saw that as the rate of interest increases the net present value decreases

☒ Internal rate of return:

By equating value of NPV to zero by using the goal seek function of excel

We obtain the IRR as 137.85%

3) If the new pool is expected to have a life much longer than 10 years, estimate the net present value of this project, making reasonable assumptions about investments needed and cash flows. Develop a net present value profile and estimate the internal rate of return for this project

☒ This question was very similar to the first question

☒ We just changed the life of the pool to 25 years

☒ Some significant changes:

- Amt of depreciation annually reduced to \$32 million
- A total of 7 servers had to be purchased in the years:

2026, 2033, 2037, 2041, 2042, 2045 & 2046

- All the total values increased w.r.t the fact that the tenure increased by 15 years

☒ IRR remained the same even the tenure increased