EXCEL AND FM PROJECT

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**The spreadsheet contains the answer of three questions in which**

* **The Q1 contains the cashflows for first 10 year and the finding the after tax incremental cashflows.**
* **The Q2 contains the analysis of Q1**
* **The Q3 contains the cashflows for first 30 year and then analysing.**

**Over here we are assuming the start year to be 2022, all the cashflows are assumed to be made in arrears.**

Q1) Estimate the after-tax incremental cash flows from the proposed Alternium pool to Universal Swap over the next 10 years.

ANSWER: In order to solve this , first we need to divide the cashflows into revenue and expenses. Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations , meanwhile an expense is s the cost of operations that a company incurs to generate revenue.

***REVENUES;*** *We just have 3 sources of revenue, i.e. pricing and unit cost, new participants and cost savings.*

*The participants from US and Russia grew up by 5% each year and in the starting year the number of participants from US and Russia were 45 million. The international participants grew up by 10% each year and in the starting year the number of international participants were 30 million. The flat rate and the cost of servicing increased by inflation rate each yearly. New international participants also started to participate because a new pool is introduced in the market.* *As a potential side benefit, Universal Swap will be able to use The Alternium to cut costs of its current pool by utilizing synergies in terms of platform costs. That cost savings in current pool is expected to amount to $30 million (pre-tax) in the first year and increase at 3% a year for the next*

*ten years.*

***EXPENSES:***  *Universal swap has spent 150 million dollaand 1 billion dollar in the start year for Research and Development and introductory cost respectively.*

*The current server had a capacity of 46.154 million participants (30 million/ 65%).*

*Hence new server have to be bought in order to increase the new international participants bandwidth. The initial base price for the server was 600 million dollar*

*but it rose to 627.407 million dollar by the end of 2025 because of inflation.*

*Initially the advertising cost was calculated at a growth of 5% on 500 million ,it being the cost of base year. For the case of Alternium the advertising cost was more 15% then the regular one.*

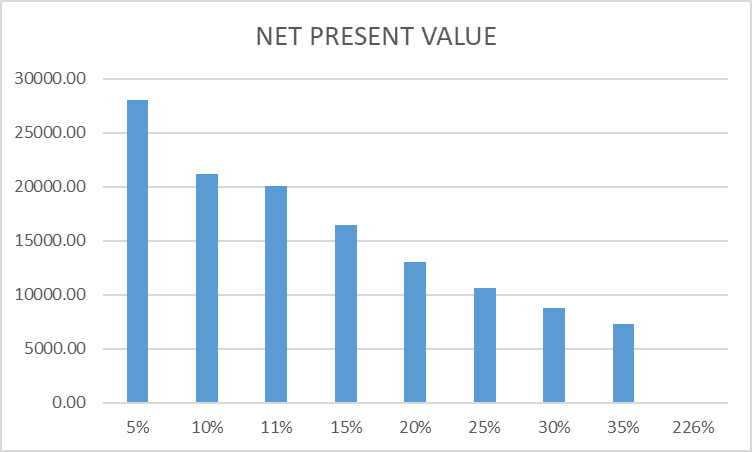
*Working capital to be invested at the start of the next year was calculated as percent of the previous year revenue.*

***CONCLUSION:*** *The net cash flow has revenue less expense , we the get the taxable income . From that After tax incremental cashflows is calculated.*

Q2) 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.

**ANSWER;** *The cost of capital was given to be 11 %. Using the cost of capital ,find the discounting factor for each year and then find the present value of cashflows (after tax incremental cashflows ). By adding all the present value of cashflows net present value is obtained which is 20073.49541 million dollars.*

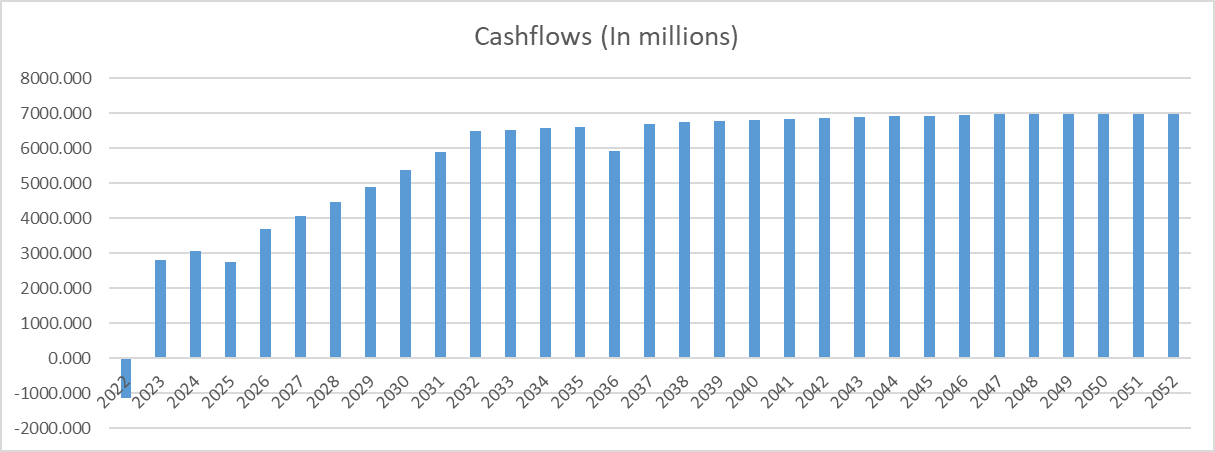
*In order to find IRR ( Internal rate of Return), set the value of npv to 0 .Overhere the IRR is 226%.*

*The Net Present Value profile is as follows : *

Q3) 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.

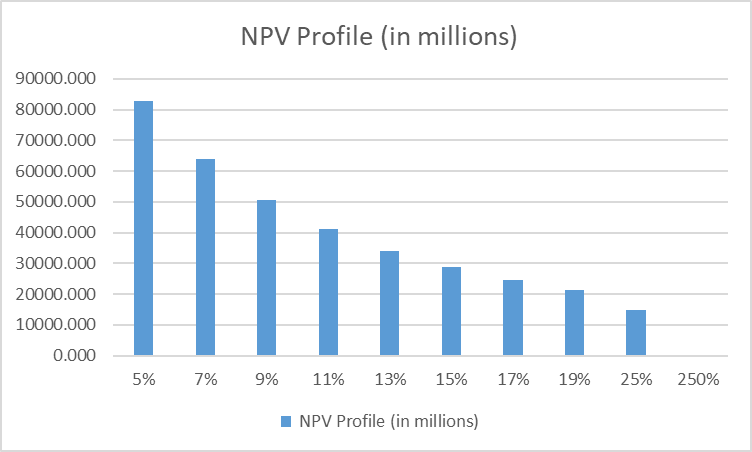
**ANSWER:** *HERE THE NEW POOL HAVE A LIFE OF 30 YEARS STARTING FROM 2022 TO 2052. AS THE SERVERS WILL BE FULL AFTER 10TH YEAR , THERREFORE THEIR WILL BE NO NEW PARTICIPANTS ENTER. BUT AS A NEW SERVER IS PURCHASED SO THEIR WILL BE NEW INTERNATIONAL PARTICIPANTS. NEW PARTICIPANTS ARE GROWING UP UNTILL THE 30TH YEAR , WITH THE RATE OF 8%.*

*The expense of R & D is same as previous which was 150 million dollar , but now the infrastructure has zero scrap value. The server will be bought twice , once at the year 2025 at the cost of 627.407 million dollar (adjusted with inflation) and other at year 2036 at the cost of 739.053 million dollar (adjusted with inflation). All other expenses increases like previous year till 2052.*

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*The cashflows are increasing at an increasing rate till 2032, expect in the year of 2025 , were there is a slight dip due the purchase of first server. The cashflows from 2032 to 2052 increases at a very slow rate and it ranged in between 6k-7k million dollar , expect in the year 2036 ,were the the cashflow is below 6k million dollar because of second server’s purchase. The net present value of the project is 41107.182 million dollar at cost of capital (11%) and with an IRR of 250%.*

*The NET VALUE PROFILE ARE AS FOLLOWS:*



*The internal rate of return (IRR) states that a project or investment should be pursued if its IRR is greater than the minimum required rate of return, also known as the hurdle rate. We should invest in this project as the IRR is more than the cost of capital and this project the cashflows are always positive and gradually increases except the initial base year.*

***THANKS FOR GIVING SUCH AN INTRIGUING PROJECT WHICH MAKES YOUR BRAIN PONDER AND IT PREPARE US FOR REAL WORLD CORPORATE SCENARIO.***