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## **Corporate Finance**

### **Section 2: Capital Budgeting**

#### **Introduction**

The process of capital budgeting is the most modernized method of evaluating a prospective capital project. Since the capital budgeting techniques evaluates the profitability of a capital project, any corporate decision with an impact on the future earnings of the company can be examined using this framework. For Instance, if Glencore Xstrata wishes to evaluate two independent projects in terms of which Project will be profitable for the company, they can select any of the following capital budgeting techniques to evaluate the same:

- Net Present Value(NPV) Method
- Internal Rate of Return( IRR) Method
- Payback Period
- Discounted Pay Back Period
- Profitability Index Method

Theoretically, NPV is the best method of evaluating a capital project as it directly indicates the expected increase/decrease in the value of the firm and the shareholder value if the project is undertaken. Hence, we assume that in order to use the capital budgeting process for both the projects.

### **Process of calculating NPV of a project**

In order to use the NPV method to evaluate the capital projects, the company first needs to calculate all the expected incremental cash inflows from both the project and then discount the same with the cost of capital of

the firm. Here the term cost of capital refers to the discount rate that should be adjusted with the risk level of the project. For Instance, if the projects being evaluated contain high risk level, the discount rate should be adjusted to represent appropriate cost of capital . Finally, when all the expected incremental cash flows are discounted, they are subtracted from the initial cash outlay, i. e. relating to cost of the project(this should not include sunk cost or financing costs relating to the project). In the nutshell, “NPV is the present value of the expected inflows minus the initial cost of the project”

### **Section 3-Cost-Volume-Profit(CVP) Analysis**

#### Introduction

CVP analysis is one of the most widely used tool by the managers to take decisions as the process directly establish a relationship between the cost, volume and the related profitability of a product or a project. Hence, using the concept of CVP analysis, managers are able to forecast if the launch of the product will be profitable under the existing cost environment and if yes, what level of sales volume should be achieved to reach the break-even. In order to understand the concept, we assume that Glencore Xstrata decides to launch new agriculture equipment into the market and to predict its profitability, the manager uses CVP analysis which they divide into two parts:

- Description of Costs associated with the product
- Break-Even Analysis

## **Description of the costs associated with the product**

i) Fixed Costs: As the name implies, this cost is irrespective of the level of production. Hence, no matter how much is the output level of the company, it has to bear the fixed cost. However, higher is the level of production, lower will be the per unit fixed costs, but it will never turn zero. As for the production of agricultural equipment, we assume that the company will have to bear the following fixed costs:

- Rent Expenses
- Administration Salaries
- Asset Insurance Expenses

ii) Variable Costs: Unlike fixed costs, these costs are directly proportional to the production activity. In other words, more is the output level, higher will be the variable cost for the company, vice-versa. Some of the constituent of variable costs relating the product are:

- Cost of raw materials
- Labor Salaries(employed on per hour basis)
- In-house packing charges
- Logistic expenses

## **Break-Even Analysis**

Break-Even Point(in units)= Fixed Cost/ (Selling Price- Variable Cost)

Once the manager ascertains the expected cost associated with the project, then the next step will be to compare them with the sales price to determine the no-profit-no-loss situation, i. e. the break- even point. In this way, the manager will be able to calculate the number of units of the product the company will have to sell to arrive at break-even. Below discussed is the

assumed calculation for the agricultural product being launched by the company:

### **Calculating Break-Even Point for the Product**

Assuming that the company decides to launch the agricultural equipment at the selling price of \$600/ unit, while the fixed cost and variable cost amounts to \$20000 and \$480/ unit, respectively. Under these credentials, the break-even point of the product will be:

a) Break-Even Point(in units)= [Fixed Cost/ (Selling Price- Variable Cost)]

$$\text{BEP} = 20000 / (600 - 480)$$

$$\text{BEP} = 167 \text{ units (approx.)}$$

### **Checking our calculation:**

$$\text{Sales}(167 * 600) = \$100200$$

$$\text{Less: Variable Cost}(167 * 480) = \$80200 \text{ (approximated)}$$

$$\text{Contribution Margin} = \$20000$$

$$\text{Less: Fixed Cost} = \$20000$$

$$\text{Net Income} = \$0$$

$$\text{b) Break-Even point (in value)} = \text{BEP units} * \text{Selling Price}$$

$$= 167 * 600$$

$$= \$100200$$

Referring to the above calculation, we can witness that the company will need to sell at least 167 units to achieve break-even level. This turns out to be sales figure of \$100200. In other words, only when the company earns sales revenue of \$100200, it will arrive at no-profit-no-loss situation.