[MUSIC PLAYING]

This is Dr. Bob Nolley with a look at what goes on within capital budgeting. Capital budgeting, which is also called investment appraisal, is a planning process in which a company makes long-term investment decisions of how they will make major capital expenditures. Basically, the purpose of capital budgeting is to form a forecast of revenues and expenditures and build a model of how the business might perform financially. Capital budgeting is most involved in ranking projects and raising funds when long-term investment is taken into account. It is so important because large sums of money are involved, and long-term investments, once made, cannot be reversed.

The first step involves tracking the projected inflows and outflows of cash. These cash flows represent payments and returns internally, or externalities made as a byproduct of operations. And over time, cash flow analysis on potential projects and investments is the most critical aspect of capital budgeting. It determines profitability, the cost of capital, and the future rate of return.

These cash flows come from three fundamental business activities. The first of these are investing activities. They are related to mergers and acquisitions, loans made to suppliers, received from customers, as well as the purchase or sale of long-term assets such as equipment.

The second of these are financing activities. These primarily revolve around cash inflows from banks and shareholders, as well as outflows for dividends to investors and payments for debt servicing. The third type of cash flow is from operating activities. This often draws the most attention in cash flow analysis because these activities can be very broad, incorporating anything related to the production, sale, and delivery of a product or service and raw materials, advertising, shipping, inventory, payments to suppliers, employees, interest payments, depreciation, deferred taxes, and amortization.

Once the cash flow analysis is complete, the capital budgeting process calls for a ranking of investment proposals. It is very rare that a company has so much cash that it can take on all the investment opportunities it has before it. Most often, they need to be ranked for eligibility. There are several methods to do this.

The first of these is the net present value method. Each project's value is calculated using discounted cash flows for expenditures and expected revenues. It is important that the company choose the correct discount rate, sometimes called a hurdle rate, when establishing the net present value.

Generally, if a net present value is greater than 0, the project would add value to the firm, so it could be accepted. If the net present value is less than 0, the project would subtract value, so the project should be rejected. If it is equal to 0, it is not a gain or loss for the firm. Because of this, the projects with the highest net present value are in all likelihood those that should be accepted.

A second method of ranking is through the Internal Rate of Return-- or the IRR. The IRR is the rate that makes the net present value of the cash flows, both inflows and outflows, equal to 0. Assuming all projects require the same upfront investment, the project with the highest internal rate of return would be considered the best. The IRR is a very popular method because, generally, businesses love percentage rates.

The third method is the profitability index, and this allows you to rank projects based on a unit of investment that is calculated by the present value of the cash flows divided by the initial investment. So as the profitability index increases, the project becomes more attractive. The rule for selection would be, if the profitability index is more than 1, then the project could be accepted.

The fourth and final method of ranking projects is the use of the payback. The payback period measures how long something takes to pay itself back. It is the amount of time that it takes to generate revenues that offset the initial investment. Shorter payback periods are preferable to longer payback periods.

This method is very broadly used even though it has one big disadvantage. It disregards totally the time value of money. In addition to its simplicity, it also has the advantage that it is a indicator of liquidity generation, that is, how quickly a firm can recover its investment. Let's review what we discussed about capital budgeting.

Capital budgeting is a long-term investment decision. The analysis starts with the determination of cash flows. This could be from investment from financing, but mostly they are from operations. The net present value method calculates the present value of expected revenue less the present value of expected expenditures. The higher the NPV, the more attractive the project will be.

The Internal Rate of Return-- the IRR-- is the interest rate at which the net present value is 0. This is attractive because it is expressed as a rate. The third measure is the profitability index. This is the present value of the future cash flows divided by the initial investment.

And the last method of project evaluation is the payback, which is the amount of time it takes to recover the initial payment. While reflecting liquidity, this ignores the time value of money.

This is Dr. Bob Nolley, and I'll see you in the next lesson.

[MUSIC PLAYING]