

Time value of money simulation



The University of Phoenix simulation “ Utilizing the Time Value of Money” focused on the financial principles used to evaluate and determine whether to outsource manufacturing or to invest in in-house operations. The simulation depicted real-life examples of how investment choices impacts the Net present value (NPV), internal rate of return (IRR), and cost of capital. The objective of the simulation was to apply time value of money principles to evaluate the investment alternatives of Cracker Pop.

In each of the simulation’s scenarios, net present value and internal rate of return were used to determine the optimal choice pertaining to outsourcing or investing in a new plant for its card operations. Outsourced production issues arose in the second scenario introducing debt-equity mix in the evaluations. A drop in long-term interest rates made it more lucrative for InnoVista to invest in an additional plant with a debt-equity mix of 60% - 40%. The third scenario involved evaluating the criterion to increase production.

Maintaining the same debt-equity mix as the second scenario, upping manufacturing to 900, 000 units, and adding an additional shift proved to be the most optimal approach for InnoVista to meet consumer demands for its Cracker Pop cards as it resulted in a low cost per capital while also producing a high NPV. Aside from NPV and IRR, companies also use the payback period to evaluate possible investments. The payback period estimates the length of time required to recover the cost of an investment and addresses how desirable an investment is over the long-term.

The payback method does have disadvantages in that it ignores time value of money principles and fails to recognize the profitability and risk of an investment. “ Because of these reasons, other methods of capital budgeting like net present value and internal rate of return are generally preferred” (Answers Corporation, 2007). Although net present value (NPV) is a preferred criterion in capital budgeting, it is not perfect. One of the biggest disadvantages of NPV is that it is sensitive to discount rates.

Any increase or decrease in a discount rate will affect the final NPV outcome. Secondly, NPV does not account for the value of any real options imbedded in the investment venture. Cost of capital acts as a major link between an organization’s long-term investment decisions and the wealth of the owners as determined by investors in the marketplace (Gitman, 2006). Thus changes in cost of capital directly impacts investment decisions. Used to analyze possible inancial risks associated to investments, the main purpose for measuring cost of capital is to evaluate the minimum return required to cover the financial obligations incurred by the organization at the same time as meeting shareholder demands. By weighing both the cost of debt and equity, an organization can make assumptions if the return on capital will be greater than the cost of capital. If the cost of capital is greater, the investment will significantly impact an organization’s financial obligations as well as hinder its NPV which will adversely effect stock prices.