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Chapter 1 : Importance and Use of Weighted Average Cost of Capital (WACC)

Making Capital Budgeting Decisions helps corporate managers identify relevancy cash flows and measure the value of prospective capital investments. This book provides a comprehensive array of analytical tools for project evaluation: payback period (a period of time), internal rate of return (a percentage), net present value (a dollar amount.

National Importance Capital budgeting decisions are of paramount importance in financial decision. The profitability of a business concern depends upon the level of investment made for long period. Moreover, the investments are made properly through evaluating the proposals by capital budgeting. So it needs special care. In this context, the capital budgeting is getting importance. Such importance are briefly explained below. A wrong decision can prove disastrous for the long-term survival of firm. On the other hand, lack of investment in asset would influence the competitive position of the firm. So the capital budgeting decisions determine the future destiny of the company. Involvement of large amount of funds in Capital Budgeting Capital budgeting decisions need substantial amount of capital outlay. This underlines the need for thoughtful, wise and correct decisions as an incorrect decision would not only result in losses but also prevent the firm from earning profit from other investments which could not be undertaken. Irreversible decisions in Capital Budgeting Capital budgeting decisions in most of the cases are irreversible because it is difficult to find a market for such assets. The only way out will be scrap the capital assets so acquired and incur heavy losses. Risk and uncertainty in Capital budgeting Capital budgeting decision is surrounded by great number of uncertainties. Investment is present and investment is future. The future is uncertain and full of risks. Longer the period of project, greater may be the risk and uncertainty. The estimates about cost, revenues and profits may not come true. Difficult to make decision in Capital budgeting Capital budgeting decision making is a difficult and complicated exercise for the management. These decisions require an over all assessment of future events which are uncertain. It is really a marathon job to estimate the future benefits and cost correctly in quantitative terms subject to the uncertainties caused by economic-political social and technological factors. Large and Heavy Investment The proper planning of investments is necessary since all the proposals are requiring large and heavy investment. Most of the companies are taking decisions with great care because of finance as key factor. Permanent Commitments of Funds The investment made in the project results in the permanent commitment of funds. The greater risk is also involved because of permanent commitment of funds. Long term Effect on Profitability Capital expenditures have great impact on business profitability in the long run. If the expenditures are incurred only after preparing capital budget properly, there is a possibility of increasing profitability of the firm. Complicacies of Investment Decisions Generally, the long term investment proposals have more complicated in nature. Moreover, purchase of fixed assets is a continuous process. Hence, the management should understand the complexities connected with each projects. Maximize the worth of Equity Shareholders The value of equity shareholders is increased by the acquisition of fixed assets through capital budgeting. A proper capital budget results in the optimum investment instead of over investment and under investment in fixed assets. The management chooses only most profitable capital project which can have much value. In this way, the capital budgeting maximize the worth of equity shareholders. Difficulties of Investment Decisions The long term investments are difficult to be taken because decision extends several years beyond the current account period, uncertainties of future and higher degree of risk. Irreversible Nature Whenever a project is selected and made investments as in the form of fixed assets, such investments is irreversible in nature. If the management wants to dispose of these assets, there is a heavy monetary loss. National Importance The selection of any project results in the employment opportunity, economic growth and increase per capita income. These are the ordinary positive impact of any project selection made by any company.

Chapter 2 : Capital Budgeting: Capital Budgeting Decision Tools

In addition, she has developed software systems for business practitioners in the areas of bank valuation, capital budgeting, cost of capital, and mergers and acquisitions. Dr. Johnson has acted as a consultant to more than 50 major US banks and a number of state and federal agencies.

Capital projects are the ones where the cash flows are received by the company over long periods of time which exceeds a year. Almost all the corporate decisions that impact future earnings of the company can be studied using this framework. This process can be used to examine various decisions like buying a new machine, expanding operations at another geographic location, moving the headquarters or even replacing the old asset. These decisions have the power to impact the future success of the company. This is the reason the capital budgeting process is an invaluable part of any company. The capital budgeting process has the following four steps: The generation of good quality project ideas is the most important capital budgeting step. Ideas can be generated from a number of sources like senior management, employees and functional divisions or even from outside the company. Hence, all the project proposals are analyzed by forecasting their cash flows to determine expected the profitability of each project. Creating the Corporate Capital Budget: Once the profitable projects are shortlisted, they are prioritized according to the available company resources, a timing of the cash flows of the project and the overall strategic plan of the company. Some projects may be attractive on their own, but may not be a fit to the overall strategy. A follow up on all decisions is equally important in the capital budgeting process. The analysts compare the actual results of the projects to the projected ones and the project managers are responsible if the projections match or do not match the actual results. Capital Budgeting Process for various Categories of Projects: Capital budgeting projects are categorized as follows: Replacement Projects for Maintaining Business: Such projects are implemented without any detailed analysis. The only issues pertaining to these types of projects are first whether the existing operations continue and, if they do so, whether the existing processes should be changed or maintained as such. Replacement Projects for Reducing Cost: Such projects are implemented after a detailed analysis because these determine whether the obsolete, but still operational, equipment should be replaced. Such projects require a very detailed analysis. These projects are undertaken to expand the business operations and involve a process of making complex decisions as they are based on an accurate forecast of future demand. Such projects also consist of making complex decisions that require a detailed analysis as there is a great amount of uncertainty involved. Such projects are required by an insurance company or a governmental agency and often involve environmental or safety-related concerns. These projects will not generate any revenue, but they surely accompany new projects started by the company to produce revenue. Some projects that cannot be easily analyzed fall into this category. A pet project involving senior management or a high-risk project that cannot be analyzed easily with typical assessment methods are included in such projects. Principles of Capital Budgeting Process The capital budgeting process is based on the following five principles: All the capital budgeting decisions are based on the incremental cash flows of the project, and not on the accounting income generated by it. Sunk costs are not considered in the analysis. All the cash flows of the project should be based on the opportunity costs. Opportunity costs account for the money that the company will lose by implementing the project under analysis. These are the existing cash flows already generated by an asset of the company that will be forgone if the project under analysis is undertaken. The timing of the receipt of the cash flows is important. As per the time value of money concept, cash flows of the project received earlier has more value than the cash flows received later. All the cash flows from the project should be analyzed on an after-tax basis. The company should evaluate only those cash flows that they will keep, not those that they will pay to the government. The financing costs pertaining to a project should not be considered while evaluating incremental cash flows. Evaluation and Selection of Capital Projects All the capital projects are thoroughly analyzed on the basis of their cash flows forecast. However, the evaluation and selection of capital projects are also affected by the following categories: Independent versus Mutually Exclusive Projects: Independent projects are unrelated to each other and are thus, evaluated independently based on the individual profitability of each project. For example, assume both projects X and Y are independent and are profitable as well, then there is a probability that the company will accept both the projects. However, mutually exclusive implies that only one of the projects from a set will be accepted and that there is a competition among the projects itself. For example, if projects X and Y are mutually exclusive, the company cannot select both but only either X or Y. Some projects are implemented in a certain sequence or order so that the investment in one project today generates the opportunity to invest in other future projects. If a project implemented today is profitable, it will create the option to invest in the second project next year. Unlimited Funds versus Capital Rationing: If a company has unlimited funds, it can execute all the projects where expected returns are in excess of the cost of capital. However, many companies have capital constraints and have to use capital rationing. Capital budgeting process is an amalgamation of very complex decisions and their assessments. A single project can easily harm or enable the company to a large extent. Hence, an analyst needs to understand all the steps involved as well as the basic principles of the capital budgeting process.

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Chapter 3 : Capital Budgeting: The Importance Of Capital Budgeting

Maximizing profits is the same as maximizing the value of the firm. False Corporate managers are expected to make corporate decisions that are in the best interest of.

Investment Decisions by Company WACC is widely used for making investment decisions in the corporate by evaluating their projects. Let us categorize the investments in projects in the following 2 ways: Evaluation of Projects with the Same Risk When the new projects are of similar risk like existing projects of the company, it is an appropriate benchmark rate to decide the acceptance or rejection of these projects. For example, a furniture manufacturer wishes to expand its business in new locations i. To generalize it to some extent, a company entering new projects in its own industry can reasonably assume the similar risk and use WACC as a hurdle rate to decide whether it should enter into the project or not. Evaluation of Projects with Different Risk WACC is an appropriate measure to be used to evaluate a project provided two underlying assumptions are true. What to do in this situation? Still, WACC can be used with certain modification with respect to the risk and target capital structure. Discount Rate in Net Present Value Calculations Net present value NPV is the widely used method of evaluating projects to determine the profitability of the investment. All the free cash flows and terminal values are discounted using the WACC. This is how WACC may also be called a measure of value creation. Valuation of Company Any rational investor will invest time before investing money in any company. The investor will try to find out the valuation of the company. Based on the fundamentals, the investor will project the future cash flows and discount them using the WACC and divide the result by no. He will get the per-share value of the company. He can simply compare this value and the current market price CMP of the company and decide whether it is worth investment or not. So, the WACC can be optimized by adjusting the debt component of the capital structure. Lower the WACC, higher will be the valuations of the company. Lower WACC also widens the scope of the company by allowing it to accept low return projects and still create value. With the help of WACC schedule and project schedule, an optimal capital budget can be worked out for the company. WACC is an important metric used for various purposes but it has to be used very carefully. The weights of the capital components should be expressed in market value terms Refer: The market values should be determined carefully and accurately. Faulty calculations of WACC will result in faulty investment decisions as well. There are issues such as no consideration given to the floatation cost which is not worth ignoring. The complications increase if the capital consists of callable, puttable or convertible instruments, warrants etc.

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Chapter 4 : Making Capital Budgeting Decisions: Maximizing the Value of the Firm

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The analysis stipulates a decision rule for: I accepting or investment projects The time value of money Recall that the interaction of lenders with borrowers sets an equilibrium rate of interest. Borrowing is only worthwhile if the return on the loan exceeds the cost of the borrowed funds. Lending is only worthwhile if the return is at least equal to that which can be obtained from alternative opportunities in the same risk class. The interest rate received by the lender is made up of: Money can be used to earn more money. The earlier the money is received, the greater the potential for increasing wealth. Thus, to forego the use of money, you must get some compensation. This uncertainty requires a premium as a hedge against the risk, hence the return must be commensurate with the risk being undertaken. The general formula for computing Future Value is as follows: Thus we can compute the future value of what Vo will accumulate to in n years when it is compounded annually at the same rate of r by using the above formula. Now attempt exercise 6. We can derive the Present Value PV by using the formula: Rationale for the formula: The discount factor r can be calculated using: At this point the tutor should introduce the net present value tables from any recognised published source. Should the firm go ahead with the project? Attempt the calculation without reference to net present value tables first. Introduce students to annuity tables from any recognised published source. A set of cash flows that are equal in each and every period is called an annuity.

Chapter 5 : Process of Capital Budgeting

Making Capital Budgeting Decisions: Maximizing the Value of the Firm. By Hazel Johnson. Price. Store. Arrives. Preparing. Shipping The price is the lowest for any.

Wrapping It All Up Once projects have been identified, management then begins the financial process of determining whether or not the project should be pursued. The three common capital budgeting decision tools are the payback period , net present value NPV method and the internal rate of return IRR method. Payback Period The payback period is the most basic and simple decision tool. With this method, you are basically determining how long it will take to pay back the initial investment that is required to undergo a project. In order to calculate this, you would take the total cost of the project and divide it by how much cash inflow you expect to receive each year; this will give you the total number of years or the payback period. As you might surmise, the payback period is probably best served when dealing with small and simple investment projects. This simplicity should not be interpreted as ineffective, however. If the business is generating healthy levels of cash flow that allow a project to recoup its investment in a few short years, the payback period can be a highly effective and efficient way to evaluate a project. When dealing with mutually exclusive projects, the project with the shorter payback period should be selected. Net Present Value NPV The net present value decision tool is a more common and more effective process of evaluating a project. Perform a net present value calculation essentially requires calculating the difference between the project cost cash outflows and cash flows generated by that project cash inflows. The NPV tool is effective because it uses discounted cash flow analysis , where future cash flows are discounted at a discount rate to compensate for the uncertainty of those future cash flows. The term "present value" in NPV refers to the fact that cash flows earned in the future are not worth as much as cash flows today. Discounting those future cash flows back to the present creates an apples to apples comparison between the cash flows. The difference provides you with the net present value. In the case of mutually exclusive projects, the project with the highest NPV should be accepted. Internal Rate of Return IRR The internal rate of return is a discount rate that is commonly used to determine how much of a return an investor can expect to realize from a particular project. Strictly defined, the internal rate of return is the discount rate that occurs when a project is break even, or when the NPV equals 0. Here, the decision rule is simple: The greater the difference between the financing cost and the IRR, the more attractive the project becomes. The IRR decision rule is straightforward when it comes to independent projects; however, the IRR rule in mutually-exclusive projects can be tricky. These issues can arise when initial investments between two projects are not equal. Despite the issues with IRR, it is still a very useful metric utilized by businesses. Businesses often tend to value percentages more than numbers i. Capital budgeting decision tools, like any other business formula, are certainly not perfect barometers, but IRR is a highly-effective concept that serves its purpose in the investment decision making process.

Chapter 6 : Capital Budgeting

Capital budgeting decisions need substantial amount of capital outlay. This underlines the need for thoughtful, wise and correct decisions as an incorrect decision would not only result in losses but also prevent the firm from earning profit from other investments which could not be undertaken.

Wrapping It All Up Capital budgeting is a step by step process that businesses use to determine the merits of an investment project. However, what rate of return is deemed acceptable or unacceptable is influenced by other factors that are specific to the company as well as the project. For example, a social or charitable project is often not approved based on rate of return, but more on the desire of a business to foster goodwill and contribute back to its community. Capital budgeting is important because it creates accountability and measurability. Any business that seeks to invest its resources in a project, without understanding the risks and returns involved, would be held as irresponsible by its owners or shareholders. Furthermore, if a business has no way of measuring the effectiveness of its investment decisions, chances are that the business will have little chance of surviving in the competitive marketplace. Businesses aside from non-profits exist to earn profits. The capital budgeting process is a measurable way for businesses to determine the long-term economic and financial profitability of any investment project. Capital budgeting is also vital to a business because it creates a structured step by step process that enables a company to: Develop and formulate long-term strategic goals â€" the ability to set long-term goals is essential to the growth and prosperity of any business. Seek out new investment projects â€" knowing how to evaluate investment projects gives a business the model to seek and evaluate new projects, an important function for all businesses as they seek to compete and profit in their industry. Estimate and forecast future cash flows â€" future cash flows are what create value for businesses overtime. Capital budgeting enables executives to take a potential project and estimate its future cash flows, which then helps determine if such a project should be accepted. Facilitate the transfer of information â€" from the time that a project starts off as an idea to the time it is accepted or rejected, numerous decisions have to be made at various levels of authority. The capital budgeting process facilitates the transfer of information to the appropriate decision makers within a company. Creation of Decision â€" when a capital budgeting process is in place, a company is then able to create a set of decision rules that can categorize which projects are acceptable and which projects are unacceptable. The result is a more efficiently run business that is better equipped to quickly ascertain whether or not to proceed further with a project or shut it down early in the process, thereby saving a company both time and money. Unlike other business decisions that involve a singular aspect of a business, a capital budgeting decision involves two important decisions at once: By taking on a project, the business has agreed to make a financial commitment to a project, and that involves its own set of risks. Projects can run into delays, cost overruns and regulatory restrictions that can all delay or increase the projected cost of the project. In addition to a financial decision, a company is also making an investment in its future direction and growth that will likely have an influence on future projects that the company considers and evaluates. So to make a capital investment decision only from the perspective of either a financial or investment decisions can pose serious limitations on the success of the project. That acquisition was a capital budgeting decision, one in which ExxonMobil made a huge financial commitment. But in addition, ExxonMobil was making a significant investment decision in natural gas and essentially positioning the company to also focus on growth opportunities in the natural gas arena. That acquisition alone will have a profound effect on future projects that ExxonMobil considers and evaluates for many years to come. The significance of these dual decisions is profound for companies. Executives have been known to lose jobs over poor investment decisions. One can say that running a business is nothing more than a constant exercise in capital budgeting decisions. Understanding that both a financial and investment decision is being made is paramount to making successful capital investment decisions.

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Chapter 7 : Chapter 6 - Investment decisions - Capital budgeting

Capital budgeting is a step by step process that businesses use to determine the merits of an investment project. The decision of whether to accept or deny an investment project as part of a.

Chapter 8 : Need and Importance of Capital budgeting decisions

Capital budget decisions have a major effect on a firm's operations for years to come, and the smaller a firm is, the greater the potential impact, since the investment being made could represent a substantial percent of the firm's assets.