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Theory and Practices of Capital Budgeting

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ABSTRACT

The aim of this present paper is to review and provide a theoretical knowledge on the capital budgeting practices. Capital budgeting is the process that companies use for decision making on capital projects-projects with a life of a year or more. This is a fundamental area of knowledge for financial analysts for many reasons. Planning for capital investments can be very complex, often involving many persons inside and outside the company. Capital Planning is critical on the grounds that it makes responsibility and another was to put its assets in a undertaking without understanding the hazard and return involved would be considered as mindful by its very own investors for the more if an individual as no chance to get of exempting the viability and its speculation choices chances are that business will have minimal possibility of getting by in the aggressive commercial center.

Key Words : Cash Flows, Capital Budgeting, NPV, Capital Planning.

Introduction

Capital Budgeting is a decision process relating to long-term capital investment programmes. A sound capital budgeting decision is very critical for a firm because it is aligned with the firm's primary objective (wealth maximization), and it requires a substantial amount of resource and long-term commitment. Once the decision has been made, the process cannot be manipulated without incurring losses (Hall and Millard, 2010). Capital Planning is critical on the grounds that it makes responsibility and another was to put its assets in a undertaking without understanding the hazard and return involved would be considered as mindful by its vary own investors for the more if an individual as no chance to get of exempting the viability and its speculation choices chances are that business will have minimal possibility of getting by in the aggressive commercial center. The Indian business environment today has become highly turbulent with companies being exposed to a multitude of risks such as business cycle risk, slowdown in demand, unanticipated actions of competitors, interest rate risk, inflation rate risk, unexpected technological developments, government policy changes, and above all, exchange rate risks. In the Indian corporate sector, the use of capital budgeting techniques has shifted dramatically towards increasing adoption of sophisticated DCF techniques like NPV, IRR and advanced techniques like NPV with Real Options, MIRR and Simulation Analysis (Anand,2002; Singh et al., 2012; Verma et al., 2009). This does not disregard the usage of old NDCF techniques especially payback period method, which is still used widely as a secondary criterion (Gupta et al.,2011).

Literature Review

Leon et al. (2008) pointed out that capital budgeting is a process of evaluating and decision-making on investment projects. The authors also stated that evaluation must involve the cash flows from the proposed project considering the risk and uncertainty. Thus, care must be taken in project selection to ensure a greater probability that positive results will be made in the long run to the firm.

Garrison et al., (2018) Capital budgeting is considered an important element in the firm managerial decisions and long-term financial performance.

Rose et al., (2016) defined capital budgeting as the ways of planning and managing the firm investment in the long-term assets. Capital budgeting also plays a vital role in the firm's strategic decisions like firm expansion, asset replacement and new asset selection, cost minimization and choosing between leases or buy.

Leon et al. (2008) Capital budgeting refers to the financial assessment of the capital investment proposals of a company. In other words, capital budgeting involves assessing whether the future cash flows resulting from a suggested investment justify whether it should be made, considering the risks and uncertainties.

Ibrahim E.Ahmed (2013), study found a sizable number of UAE companies that use capital budgeting techniques in their capital investment decisions. The widely used methods are: PB, NPV, and IRR by most of the UAE companies. The study also revealed that many financial and nonfinancial factors influence the selection of capital budgeting technique such as the size of the company, revenues, profitability, leverage level, expenditure, familiarity with the project, availability of cash, and the level of education of decision makers. Significant differences were found between the methods selected and

the factors influencing the selection of the technique. It has been found that there is a positive association between most of the financial factors and the methods but negative with majority of the nonfinancial variables.

Capital Budgeting Theory in Practice

Capital budgeting is the long -term investment decision. It is probably the most crucial financial decision of a firm. It relates to the selection of an assent or investment proposal or course of action that benefits are likely to be available in future over the lifetime of the project. Capital budgeting is the process of making investment decision in long-term assets or courses of action. Capital expenditure incurred today is expected to bring its benefits over a period of time. These expenditures are related to the acquisition & improvement of fixes assets.

Capital Budgeting Process

The capital budgeting process consists of five steps:

1. Proposal for projects: Proposals for new investment projects are made at all levels within a business organization and are reviewed by finance personnel and key management body.
2. Review and analysis of projects: Financial managers including key management body perform formal review and analysis to assess the merits and de merits of investment proposals.
3. Decision making about proposals: Firms typically delegate capital expenditure decision making on the basis of capital availability and limits.
4. Selection and implementation: Following approval and selection, expenditures are made and projects implemented.
5. Follow-up and review process: Results are monitored and actual costs and benefits are compared with those that were expected. Action may be required if actual outcomes differ from projected ones

Types of Capital Budgeting Decisions

Independent projects (Accept-Reject criterion): Independent projects are the projects which do not compete with one another. Based on the profitability of the projects and the availability of funds, a company undertakes any number of projects. In such a case, projects will be taken up to a level where marginal cost of funds equal to marginal rate of return of the project.

Mutually exclusive projects: In case of mutually exclusive projects, acceptance of one project results into rejection of another project. For example if there are two projects X and Y, either X or Y or Y should be accepted by the company

Capital rationing decisions: A firm may have several profitable investment proposals but only limited funds to invest. In such a case, these various investment proposals compete for limited funds, and thus, the firm has to ration them. The firm selects the combination of proposals that will yield the greatest profitability by ranking them in descending order of their profitability.

Methods for Capital Budgeting

Capital budgeting is defined as the process used to determine whether capital assets are worth investing in. Capital assets are generally only a small portion of a company's total assets, but they are usually long-term investments like new equipment, facilities and software upgrades. By incorporating strategically planned capital budgeting into their financial processes, companies can more effectively determine and prioritize which projects, programs and other investment assets could be most financially beneficial in the long-term. As these assets often only generate tangible returns in the long-term, it is important that practicing finance professionals develop an understanding of the five primary methods of capital budgeting, and how they can be utilized to decide the best course of action when firms are planning their next significant capital investment.

Internal Rate of Return

The internal rate of return calculation is used to determine whether a particular investment is worthwhile by assessing the interest that should be yielded over the course of a capital investment. It is determined by using a particular formula that must be calculated through trial-and-error or by using specific software. As the internal rate of return helps aid investors in measuring the profitability of their potential investments, the ideal internal rate of return for a project should be greater than the cost of capital required for the project, as it can be assumed that the project will be a profitable one. Professionals who hope to maximize the potential of their capital investments need to leverage the internal rate of return when necessary, especially in instances where they are planning on analyzing an investment in venture capital, private equity or other operations that require a consistent cash investment that ends with a large payout, like a sale. When using this calculation, finance professionals should recognize that the measurement for the internal rate of return is similar to the net present value metric (another capital budgeting method); however, the internal rate of return is formulated to make the net present value of all cash flows in a project equal to zero. It is for this reason that companies shouldn't rely solely on the internal rate of return calculation to project profitability of a project and should use it in conjunction with at least one other budgeting metric, like net present value.

Net Present Value

Net present value (NPV) is used for the same purpose as the internal rate of return, analyzing the projected returns for a potential investment or project. The net present value represents the difference between the current value of money flowing into the project and the current value of money being spent. The value can be calculated as positive or negative, with a positive net present value implying that the earnings generated by a project or investment will exceed the expected costs of the venture and should be pursued. Also, unlike other capital budgeting methods, like the profitability index and payback period metrics, NPV accounts for the time value of money, so opportunity costs and inflation are not ignored in the calculation. To achieve this, the net present value formula identifies a discount rate based on the costs of financing an investment or calculates the rates of return expected for similar investment options.

Unlike some capital budgeting methods, NPV also factors in the risk of making long-term investments. Therefore, the formula for net present value is longstanding and effective, but professionals in the industry must still recognize the potential room for error that arises when relying on calculations like investment costs, rates of discount, and projected returns, all of which rely heavily on assumptions and estimates. As accounting for unexpected expenses can be difficult when budgeting for capital investments, it is important to consider using payback period metrics and the internal rate of return as possible alternatives to net present value calculations when evaluating a project or investment.

Profitability Index

The profitability index is a capital budgeting tool designed to identify the relationship between the cost of a proposed investment and the benefits that could be produced if the venture was successful. The profitability index employs a ratio that consists of the present value of future cash flows over the initial investment. As this ratio increases beyond 1.0, the proposed investment becomes more desirable to companies. When this ratio does not exceed 1.0, the investment should be deferred, as the project's present value is less than the initial investment.

The caveat to using the profitability index for capital budgeting is that the technique does not account for the size of a project; therefore, sizable projects with significantly large cash flow figures often claim lower profitability indexes because of their slimmer profit margins. The upside of using the profitability index is that the index does account for the time value of investments in the calculation. It also identifies the exact rate of return for a project or investment, which makes understanding the cost-benefit ratio of projects easier.

Accounting Rate of Return

The accounting rate of return is the projected return that an organization can expect from a proposed capital investment. To discover the accounting rate of return, finance professionals must divide the average profit by the initial investment. The accounting rate of return is a useful metric for quickly calculating the profitability of a company, and it is widely used for analyzing the success rates of investments that feature multiple projects. However, the accounting rate of return metric also has some minor drawbacks when used as the sole method for capital budgeting. The first drawback is that it does not account for the time value of the money involved—meaning that future returns may be worth significantly less than the returns currently being taken in. A second issue with relying solely on the accounting rate of return in capital budgeting is the lack of acknowledgement of cash flows. In contrast to these drawbacks, the accounting rate of return is quite useful for providing a clear picture of a project's potential profitability, satisfying a firm's desire to have a clear idea of the expected return on investment. This method also acknowledges earnings after tax and depreciation, making it effective for benchmarking a firm's current level of performance.

Payback Period

The payback period is a unique capital budgeting method. Specifically, the payback period is a financial analytical tool that defines the length of time necessary to earn back money that has been invested. A subcategory, price-to-earnings growth payback period, is used to define the time required for a company's earnings to find equivalence with the stock price paid by investors. The price-to-earnings growth payback period is also widely used to get a basic understanding of how risky an investment opportunity may be. Understanding the payback period of an investment limits the risks associated with taking on costly projects.

Payback periods are an integral component of capital budgeting and should always be incorporated when analyzing the value of projected investments and projects. The payback period can prove especially useful for companies that focus on smaller investments, mainly because smaller investments usually don't involve overly complex calculations. Payments made at a later date still have an opportunity cost attached to the time that is spent, but the payback period disregards this in favor of simplicity. As with each method mentioned so far, the payback period does have its limitations, such as not accounting for the time value of money, risk factors, financing concerns or the opportunity cost of an investment. Therefore, using the payback period in combination with other capital budgeting methods is far more reliable.

When employing capital budgeting strategies at their respective businesses, finance professionals have a wide array of tools, formulas, and methods available to them. Yet, even with so many tools and options at hand, it's important that firms remain mindful of their cash flows and capital assets to ensure that their investments prove profitable in the long-term. This way, companies can reap full benefits of capital budgeting by identifying and prioritizing the large investments, which are most likely to have a long-term impact on the company or organization.

Conclusion

Investment decision making does not depend merely on accounting information. Managers with different expertise and information must debate amongst themselves to clarify complex problems and the feasibility of possible solutions. There are many Capital budgeting appraisal methods in practice, but the main methods to evaluate investments are Net Present Value (NPV), the Internal Rate of Return (IRR), the Pay Back (PB) method, the Accounting Rate of Return(ARR) and Profitability Index(PI). It is assumed that cash flows are known with certainty, sufficient funds are available to undertake all profitable investments, and there are no taxes or inflation. Decision outcomes are rarely based exclusively on signals computed by financial analyses. Intuition and judgement based on experience play a major role in decision-making. Executives adopt 'holistic' approaches incorporating financial and strategic considerations. They are not just technocrats anchored to financial calculations.

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