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Effective Capital Budgeting Decisions by Firms

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Abstract

Finance is the life blood of business. Finance is said to be the circulatory system of the economy body, making possible the required cooperation between the innumerable units of activity. Finance guides and regulates investment decisions and expenditure of administers economic activities.

Capital budgeting means planning for capital assets. Capital budgeting decisions are complex process of paramount importance in financial decisions, because efficient allocation of capital resources is one of the most crucial decisions of financial management. Capital budgeting is budgeting for capital projects.Because the long-term profitability of most enterprises depends on the nature and quality of their capital project investments, appropriate planning, evaluation, and implementation of high-return capital projects are imperative. Capital budgeting helps managers plan for the acquisition of capital projects that promise high returns.

It is a managerial technique of meeting capital expenditure with the overall objectives of the firm. The research findings are expected to be useful to the financial institutions, managers as well as practitioners in the area of investment decision-making. As there are various methods and criteria available, the research studies undertaken so far suggest that by and large decision-makers tend to select methods ignoring time value of money.

Key words: Capital Budgeting*, Risk**, Capital Expenditure***.

*Capital budgeting. It is decision-making process concerned with "whether or not (i) the firm should invest funds in an attempt to make profit?" and (ii) how to choose among competing projects.

**Risk. Refers to a situation in which there are several possible outcomes, each outcome occurring with a probability that is known to the decision-maker.

***Capital Expenditure. A capital expenditure is an expenditure incurred for acquiring or improving the fixed assets, the benefits of which are expected to be received over a number of years in future.

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Introduction

A number of researchers in finance and accounting have examined corporate capital budgeting practices. Many of these articles survey corporate managers and report the frequency with which various evaluation methods, such as payback, internal rate of return (IRR), net present value (NPV), discounted payback, profitability index (PI), or average return on book value are used.

The process of budgeting resources for the future of an organization's long term plans. Capital planning for a business would include budgeting for new and replacement machinery, research and development and the production of new products, new plants and other major capital expenditures.

Capital budgeting is a managerial technique of meeting capital expenditure with the overall objectives of the firm. There are two fundamental types of financial decisions that the finance team needs to make in a business: investment and financing. The two decisions boil down to how to spend money and how to borrow money. A business needs to make investments in various projects. As a normal practice, a business entity invests the money in the acquisition of fixed assets, such as, machinery, land or building.

Objectives of the Study:

The following objectives were set out for the study:

1. To determine the types of capital investments undertaken and the methods of appraisal used.
2. To analyze the problems faced to estimate the cash flows associated with each capital investment accurately.
3. To analyze how 'Uncertainty' in the future estimates in investment projects is being taken care of.
4. To study the preferences between Net Present Value (NPV) and Internal Rate of Return (IRR) methods.

Why do firms follow Capital budgeting decision?

1. Capital budgeting involves capital rationing
2. Capital budget becomes a control device when it is employed to control expenditure
3. A firm contemplating a major capital expenditure programme may need to arrange funds many years in advance to be sure of having the funds when required.

It calls for the effective decision making process in terms of the acquisition of fixed assets, modification of fixed assets and replacement of fixed assets. Therefore, it is not only important to determine the capital expenditure of a business entity but also evaluate the results while considering various factors, such as, economic and social and technological etc.

Kinds of Capital Budgeting Decision following by firms:

(i) Mutually Exclusive Projects:

It means if a firm accepts one project, it may rule out the necessity for others i.e., the alternatives are mutually exclusive and only one is to be chosen.

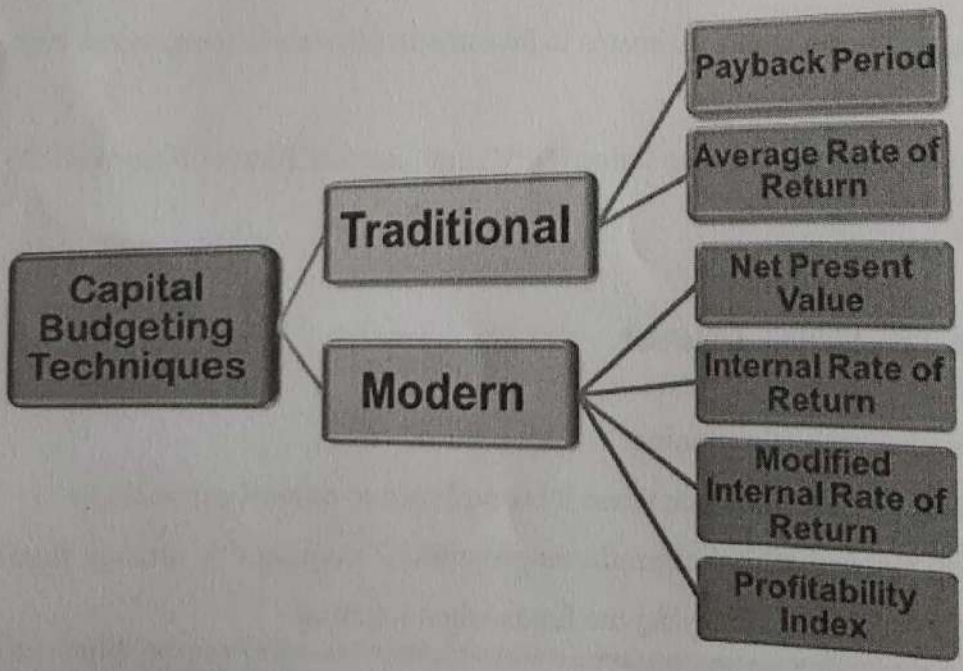
(ii) Accept-Reject Decisions or Acceptance Rule:

The proposals which yield a higher rate of return in comparison with a certain rate of return or cost of capital are accepted and, naturally, the others are rejected.

(iii) Capital Rationing Decision:

Capital rationing is normally applied to situations where the supply of funds to the firm is limited in some way. As such, the term encompasses many different situations ranging from that where the borrowing and lending rates faced by the firm differ, to that where the funds available for investments are strictly limited.

Techniques of capital budgeting



Payback Period

The Payback Period helps to determine the length of time required to recover the initial cash outlay in the project. Simply, it is the method used to calculate the time required to earn back the cost incurred in the investments through the successive cash inflows.

The formula to calculate it:

Payback Period = Initial Outlay/Cash Inflows

Accept-Reject Criteria: The projects with the lesser payback are preferred.

Average Rate of Return

Definition: The Average Rate of Return or ARR, measures the profitability of the investments on the basis of the information taken from the financial statements rather than the cash flows. It is also called as Accounting Rate of Return.

The formula for calculating the average rate of return is:

Average Rate of Return = Average Income / Average Investment over the life of the project

Where, Average Income = Average of post-tax operating profit

Average Investment = (Book value of investment in the beginning + book value of investments at the end) / 2

Accept-Reject Criteria: The projects having the rate of return higher than the minimum desired returns are accepted.

Net Present Value

The Net Present Value or NPV is a discounting technique of capital budgeting wherein the profitability of investment is measured through the difference between the cash inflows generated out of the cash outflows or the investments made in the project.

The formula to calculate the Net Present value is:

Net present value = $^{n}\sum_{t=1} C_t / (1+r)^t - C_0$

Where, C_t = cash inflow at the end of year t

n= life of the project

r= discount rate or the cost of capital

C_o= cash outflow

Accept – Reject Criteria: If the NPV is positive, the project is accepted.

Internal Rate of Return

Definition: The Internal Rate of Return or IRR is a rate that makes the net present value of any project equal to zero. In other words, the interest rate that equates the present value of cash inflow with the present value of cash outflow of any project is called as Internal Rate of Return.

Unlike the Net present value method where we assume that the discount rate is known, in the case of internal rate of return method, we put the value of NPV zero and then find out the discount rate that satisfies this condition.

The formula to calculate IRR is:

$CF_o = {}^n\sum_{t=1} C_t / (1+r)^t$

Where, CF_o = Investment

C_t = Cash flow at the end of year t

r = internal rate of return

n= life of the project

Accept- Reject criteria: If the project's internal rate of return is greater than the firm's cost of capital, accept the proposal.

Profitability Index

Definition: The Profitability Index measures the present value of returns derived from per rupee invested. It shows the relationship between the benefits and cost of the project and therefore, it is also called as, Benefit-Cost Ratio.

The profitability Index helps in giving ranks to the projects on the basis of its value, the higher the value the top rank the project gets. Therefore, this method helps in the Capital Rationing.

The formula to calculate the Profitability Index is:

PI = Present value of future cash inflows/ Present value of cash outflows

Accept-Reject Criteria: The project is accepted when the value of PI exceeds 1. If the value is equal to 1, then the firm is indifferent towards the project and in case the value is less than 1 the proposal is rejected.

Modified Internal Rate of Return

Definition: The Modified Internal Rate of Return or MIRR is a distinct improvement over the internal rate of return that assumes the cash flows generated from the project are reinvested at the firm's cost of capital rather that at the company's internal rate of return.

The formula to calculate the Modified Internal Rate of Return is:

$$\text{Modified Internal rate of return} = \sqrt[n]{\frac{\text{Terminal Value of Cash inflows}}{\text{Present value of Cash Outflows}}} - 1$$

Where, n= no. of periods

Terminal value is the future net cash inflows that are reinvested at the cost of capital.

Accept-Reject Criteria: If the project's MIRR is greater than the firm's cost of capital, accept the proposal.

Different categories of capital budgeting

1. Replacement and Repair of Existing Equipment

Equipment that wears out or breaks down must be replaced. When you spend more time and money fixing equipment, it's usually best to replace it, because the costs end up exceeding the resources you need to purchase new equipment. Improvements on your workspace also may be included in the replacement category of your capital budget. Repairs and other maintenance costs that exceed your normal operating budget also go into the more long-term outlay projected in a capital budget. Replacements usually don't require the same level of analysis and consideration you put into additions to your business.

2. Regulatory Requirements

Mandatory additions, adjustments, improvements or repairs required by state or city government codes serve to form another category of your capital budget plan. Federal regulations or environmental industry changes must be included in your planning so that you can stay in business and avoid fines and shutdowns. Any requirements your insurance carriers mandate go into the mandatory requirement category of the budget. This category is another step that can't be ignored or debated and includes those costs that are not recurring in your operational budget.

3. **Expansions and Improvements**

Before adding new services or products to your business, expansions and improvements of existing equipment and facilities must be considered. The category in the capital budget is reserved for adding onto existing product lines and increasing the purchasing levels of those products proving to be most successful. This category might include renovations to your building or converting existing space to be more functional. It includes those expenditures that make your business better without adding new structures, equipment or products. Unlike repairs, replacements and government requirements, expansions and improvements require extensive consideration before adding them to your capital budget.

4. Additions and Acquisitions

Making additions to your buildings, adding new product lines and the equipment needed to produce it, and creating additional services are all part of the capital budget for growth. This category includes acquisition of new land and buildings. Additions to your business require resources and planning and should coincide with your strategic growth plans. The capital budget process allows you to consider all the ramifications of growth that includes the costs associated with the additional resources you'll need to achieve that growth. According to the website Reference for Business, the capital budgeting process does not just include making list of your additional needs, but considering how those additions fit in with your strategic goals.

Conclusion:

A large number of empirical studies have been undertaken to examine the methods of capital budgeting used by industries in India and abroad. The main purpose was to study the practices of capital budgeting but it seems that there is no research conducted recently to study the methods used currently by industries. Trends towards sophisticated techniques and sound capital budgeting decisions have. The findings of this research, decades of teaching experience of the authors and the literature reviewed have been utilized to evaluate current practices and suggest possible improvements in decision making (through a normative framework).

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