A business unit is often faced with the problem of selection between two projects or the buy *vs* make choice. Due to the limitation of fund, a business unit has to choose between different projects/investments. Capital budgeting techniques help in making such decisions.

What is Capital Budgeting?

Capital budgeting is a method of judging investments and huge expenses in order to obtain the best returns on money invested.

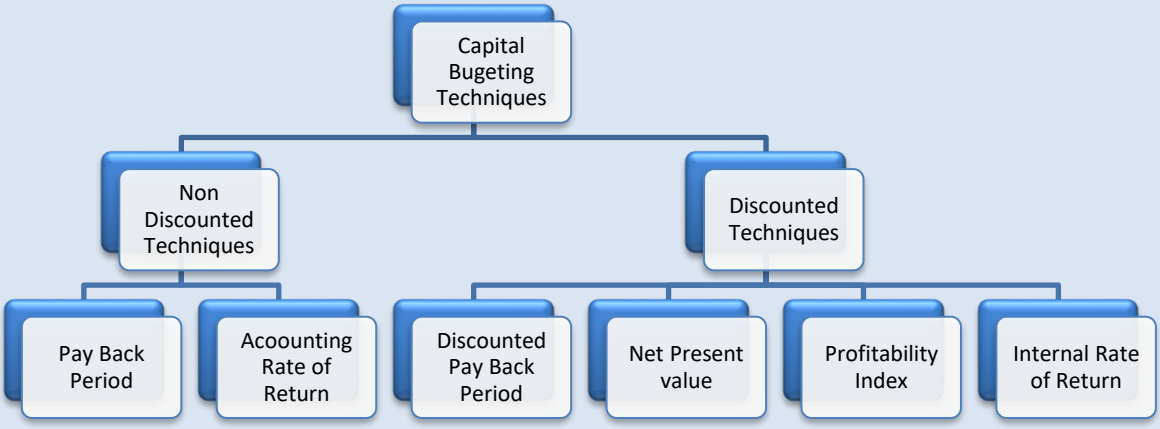
Capital budgeting is combination of two words 'capital' and 'budgeting.' In this regard capital expenditure is the disbursement of funds for large expenditures like purchasing fixed assets like machinery, equipment, repairs to fixed assets or equipment, research and development, expansion etc. Budgeting is setting limit for projects to ensure maximum profitability.

With capital budgeting techniques a business evaluates potential major projects or investments. Erection of a new plant or a big investment tangible proposals are examples of projects that would require capital budgeting before they are sanctioned or rejected.

Capital budgeting process is also known as investment appraisal.

Capital Budgeting Techniques

To assist a business unit in selection of the best investment projects there are various techniques available, these techniques are:



In non discount techniques time value of money is not considered, in discounted techniques time value of money is considered. As per the time value of money concept the money in the present is valuable more than the same sum of money to be received in the future. This is true because money that we have right now can be invested and earn a return, that will create a large amount of money in the future. There is the additional risk with future money that the future money may never actually be received, for few reasons. The time value of money is the greater benefit of receiving money in present rather than an identical sum in future. It is based on time preference. The time value of money shows the reason why interest is paid or earned: interest on a bank deposit or debt, balance the depositor or lender for the time value of money.

Non Discounted Techniques

Payback Period Method: Pay back period is the period required to recover initial cash outlay . As the name suggests, this method gives the period in which the proposed project will generate cash to recover the initial investment. It purely stresses on the cash inflows, economic life of the project and the investment made in the project.

Pay Back Period= Cash Outlay (Investment)/Annual Cash Inflow

Accounting Rate of Return Method (ARR): This method helps to rectify the disadvantages of the payback period method. It works on the base that any project having ARR higher than the minimum rate set by the management will be considered and those below the set rate are rejected.

ARR= (Average Profit/Average Investment)*100

Discounted Cash Flow Techniques

The discounted cash flow method calculates the cash inflow and outflow through the life of an asset. These cash flows are then discounted through a discounting factor. The discounted cash inflows and outflows are then compared.

Discounted Pay Back Period: In this method, cash flows are discounted through discount factor. Remaining will be same as traditional method.

Net present Value (NPV) Method: The net present value is arrived by taking the difference between the *present value of cash inflows* and the *present value of cash outflows* over a period of time. The projects with a positive NPV will be considered. In case there are multiple projects, the proposal with a higher NPV will be selected.

NPV=PVB-PVC

where,

PVB = Present value of Inflows PVC = Present value of Outflows

Internal Rate of Return (IRR): This is expressed as the rate at which the net present value of the investment is zero. The discounted cash inflows is equal to the discounted cash outflow. This method considers time value of money. This method gives a rate of interest at which funds invested in the project could be repaid out of the cash inflows. IRR is the rate at which the NPV becomes zero. The project with higher IRR is generally selected.

Profitability Index (PI): It is the ratio of the present value of future cash inflows, at the certain rate of return to the initial cash outflow of the investment.

PI= PV of cash inflows/Initial cash outlay

All projects with PI > 1.0 is accepted.

Alternatively PI=NPV(benefits)/NPV(Costs)

Importance of Capital Budgeting

1) **Involvement of Risk:** Capital expenditures projects are long term investments which involve more financial risks. That is why capital budgeting is needed.

2) **Heavy and irreversible investments** : Capital expenditure once made can not be reversed . Cash outflow is huge so adequate planning with capital budgeting techniques is a pre-requisite.

3) Benefits in Long Run : Capital budgeting cuts the costs as well as gets changes in the profitability of the company. It helps keep away from over or under investments. Adequate planning and analysis of the proposed plan helps in the long run.

Other Importance/Significance of Capital Budgeting

Capital budgeting is a necessary tool in financial management, Capital budgeting offers a wide scope for financial managers to judge different projects in terms of their feasibility to be taken up for investments, It helps in revealing the risk and uncertainty of different projects, It helps in keeping a limit on over or under investments.

Conclusion: According to the definition of Charles T. Hrongreen, "Capital Budgeting is a long-term planning for making and financing proposed capital outlays." One can conclude that capital budgeting is the effort to establish the future.

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