

# A STUDY ON CAPITAL BUDGETING WITH REFERENCE TO KESORAM CEMENT

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## **ABSTRACT**

A capital expenditure is an outlay of cash for a project that is expected to produce a cash inflow over a period of time exceeding one year. Examples of projects include investments in property, plant, and equipment, research and development projects, large advertising campaigns, or any other project that requires a capital expenditure and generates a future cash flow.

Because capital expenditures can be very large and have a significant impact on the financial performance of the firm, great importance is placed on project selection. This process is called **capital budgeting**.

Potentially, there is a wide array of criteria for selecting projects. Some shareholders may want the firm to select projects that will show immediate surges in cash inflow, others may want to emphasize long-term growth with little importance on short-term performance. Viewed in this way, it would be quite difficult to satisfy the differing interests of all the shareholders. Fortunately, there is a solution.

The goal of the firm is to maximize present shareholder value. This goal implies that projects should be undertaken that result in a positive net present value, that is, the present value of the expected cash inflow less the present value of the required capital expenditures. Using net present value (NPV) as a measure, capital budgeting involves selecting those projects that increase the value of the firm because they have a positive NPV. The timing and growth rate of the incoming cash flow is

important only to the extent of its impact on NPV.

Using NPV as the criterion by which to select projects assumes efficient capital markets so that the firm has access to whatever capital is needed to pursue the positive NPV projects. In situations where this is not the case, there may be capital rationing and the capital budgeting process becomes more complex.

This idea is crucial in the principal-agent relationship that exists between shareholders and corporate managers. Even though each may have their own individual preferences, the common goal is that of maximizing the present value of the corporation.

## **I. INTRODUCTION**

### **Capital Budgeting Process**

The specific capital budgeting procedures that the manager uses depend on the manager's level in the organization and the complexities of the organization and the size of the projects. The typical steps in the capital budgeting process are as follows:

- Brainstorming. Investment ideas can come from anywhere, from the top or the bottom of the organization, from any department or functional area, or from outside the company. Generating good investment ideas to consider is the most important step in the process .
- Project analysis. This step involves gathering the information to forecast cash flows for each project and then evaluating the project's profitability.
- Capital budget planning. The company must organize the profitable proposals into a

coordinated whole that fits within the company's overall strategies, and it also must consider the projects' timing. Some projects that look good when considered in isolation may be undesirable strategically. Because of financial and real resource issues, the scheduling and prioritizing of projects is important.

- Performance monitoring. In a post-audit, actual results are compared to planned or predicted results, and any differences must be explained. For example, how do the revenues, expenses, and cash flows realized from an investment compare to the predictions? Post-auditing capital projects is important for several reasons. First, it helps monitor the forecasts and analysis that underlie the capital budgeting process. Systematic errors, such as overly optimistic forecasts, become apparent. Second, it helps improve business operations. If sales or costs are out of line, it will focus attention on bringing performance closer to expectations if at all possible. Finally, monitoring and post-auditing recent capital investments will produce concrete ideas for future investments. Managers can decide to invest more heavily in profitable areas and scale down or cancel investments in areas that are disappointing.

### **SCOPE OF THE STUDY:**

The efficient allocation of capital is the most important financial function in the modern times. It involves decision to commit the firm's, since they stand the long-term assets such decision are of considerable importance to the firm since they send to determine its value and size by influencing its growth, probability and growth.

The scope of the study is limited to collecting the financial data of KESORAM CEMENTS for four years and budgeted figures of each year.

### **NEED AND IMPORTANCE:**

Capital Budgeting means planning for capital assets. Capital Budgeting decisions are vital to an organization as to include the decision as to:

- Whether or not funds should be invested in long term projects such as settings of an industry, purchase of plant and machinery etc.,
- Analyze the proposals for expansion or creating additions capacities.
- To decide the replacement of permanent assets such as building and equipments.
- To make financial analysis of various proposals regarding capital investment so as to choose the best out of many alternative proposals.

### **II. OBJECTIVES OF THE STUDY:**

The study on "capital budgeting in Kesoram Limited – A case study" is based on the following objectives.

1. To evaluate the capital budgeting practices relating to various projects of Kesoram Limited Hyderabad
2. To Assess the long term requirements of funds and plan for application of internal resources and debt servicing.
3. To Assess the effectiveness of long term investment decisions of Kesoram
4. To offer conclusion derived from the study and give suitable suggestions for the efficient utilization of capital expenditure decisions.

### **METHODOLOGY:**

At each point of time a business firm has a number of proposals regarding various projects in which, it can invest funds. But the funds available with the firm are always limited and are not possible to invest trend in the entire proposal at a time. Hence it is very essential to select from amongst the various competing proposals, those that gives the highest benefits. The crux of capital budgeting is the allocation of available resources to various proposals. There are many considerations, economic as well as non-economic, which influence the capital budgeting decision in the profitability of the prospective investment.

Yet the right involved in the proposals cannot be ignored, profitability and risk are directly related, i.e. higher profitability the greater the risk and vice versa there are several methods for evaluating and ranking the capital investment proposals.

### **Data collection:**

**Primary data:** - The primary data is the data which is collected, by interviewing directly with the organizations concerned executives. This is the direct information gathered from the organization.

**Secondary data:** - The secondary data is the data which is gathered from publications and websites.

### **LIMITAIONS OF THE STUDY:**

1. The study is limited to Kesoram Limited only.
2. The study is limited to certain projects of Kesoram only.
3. Period of the study is restricted to five years only.
4. The present study cannot be used for inter firm comparison.
5. Limited span of time is a major limitation for this project.
6. The data used in reports are taken from the annual reports, published at the end of the years.
7. The result does not reflect the day-to-day transactions.

### **III. Factors Affecting Capital Budgeting:**

While making capital budgeting investment decision the following factors or aspects should be considered.

- The amount of investment
- Minimum rate of return on investment ( $k$ )
- Return expected from the investments. ( $R$ )
- Ranking of the investment proposals and

- Based on profitability the ranking is evaluated I.e., expected rate of return on investment.

### **Factors Influencing Capital Budgeting Decisions:**

There are many factors, financial as well as non-financial, which influence that Budget decisions. The crucial factor that influences the capital expenditure decisions is the profitability of the proposal. There are other factors, which have to be in considerations such as.

#### **1. Urgency:**

Sometimes an investment is to be made due to urgency for the survival of the firm or to avoid heavy losses. In such circumstances, the proper evaluation of the proposal cannot be made through profitability tests. The examples of such urgency are breakdown of some plant and machinery, fire accident etc.

#### **2. Degree of Certainty:**

Profitability directly related to risk, higher the profits, Greater is the risk or uncertainty. Sometimes, a project with some lower profitability may be selected due to constant flow of income.

#### **3. Intangible Factors:**

some times a capital expenditure has to be made due to certain emotional and intangible factors such as safety and welfare of workers, prestigious project, social welfare, goodwill of the firm, etc.,

#### **4. Legal Factors.**

Any investment, which is required by the provisions of the law, is solely influenced by this factor and although the project may not be profitable yet the investment has to be made.

#### **5. Availability of Funds.**

As the capital expenditure generally requires large funds, the availability of funds is an important factor that influences the capital budgeting decisions. A project, how so ever profitable, may not be taken for want of funds and a project with a lesser profitability may be some times preferred due to lesser pay-back period for want of liquidity.

## **6. Future Earnings**

A project may not be profitable as compared to another today but it may promise better future earnings. In such cases it may be preferred to increase earnings.

## **7. Obsolescence.**

There are certain projects, which have greater risk of obsolescence than others. In case of projects with high rate of obsolescence, the project with a lesser payback period may be preferred other than one this may have higher profitability but still longer pay-back period.

## **8. Research and Development Projects.**

It is necessary for the long-term survival of the business to invest in research and development project though it may not look to be profitable investment.

## **9. Cost Consideration.**

Cost of the capital project, cost of production, opportunity cost of capital, etc. Are other considerations involved in the capital budgeting decisions?

## **RISK AND UNCERTAINITY IN CAPITAL BUDGETING**

All the techniques of capital budgeting require the estimation of future cash inflows and cash outflows. The future cash inflows are estimated based on the following factors.

1. Expected economic life of the project.
2. Salvage value of the assets at the end of economic life.

3. Capacity of the project.
4. Selling price of the product.
5. Production cost.
6. Depreciation rate.
7. Rate of Taxation
8. Future demand of product, etc.

But due to the uncertainties about the future, the estimates of demand, production, sales, selling prices, etc. cannot be exact. For example, a product may become obsolete much earlier than anticipated due to unexpected technological developments. All these elements of uncertainty have to be take in to account in the form of forcible risk while taking on investment decision. But some allowances for the elements of the risk have to provide.

## **IV. METHODS OF CAPITAL BUDGETING AND EVALUATION TECHNIQUES**

### **Traditional Methods:**

- i) Average Rate of Return.
- ii) Pay-Back Period Method

### **Time Adjusted Method or Discounted Method:**

- i) Net Present Value Method
- ii) Internal Rate of Return
- iii) Net Terminal Value Method
- iv) Profitability Index.

## TRADITIONAL METHODS

### 1. Average Rate of Return:

The average rate of return (ARR) method of evaluating proposed capital expenditure is also known as the accounting rate of return method. It is based upon accounting information rather than cash flows. There is no unanimity regarding the definition of the rate of return.

$$\text{ARR} = \frac{\text{Average annual profits after taxes}}{\text{Average investment over the life of the project}} \times 100$$

The average profits after taxes are determined by adding up the after-tax profits expected for each year of the project's life and dividing by the number of years. In the case of annuity, the average after tax profits is equal to any year's profit.

The average investment is determined by dividing the net investment by two. This averaging process assumes that the firm is using straight line depreciation, in which case the book value of the asset declines at a constant rate from its purchase price to zero at the end of its depreciable life. This means that, on the average firms will have one-half of their initial purchase prices in the books. Consequently if the machine has salvage value, then only the depreciable cost (cost minus salvage value) of the machine should be divided by two in order to ascertain the average net investment, as the salvage money will be recovered only at the end of the life of the project.

Therefore an amount equivalent to the salvage value remains tied up in the project throughout its lifetime. Hence no adjustment is required to sum of salvage value to determine the average investment. Likewise if any additional net working capital is required in the initial year, which is likely to be released only at the end of the project's life. The full amount of working capital should be taken into account for the purpose of calculating ARR. Thus,

$$\text{Average investment} = \text{Net Working Capital} + \text{Salvage Value} + \frac{1}{2} (\text{initial cost of machine value})$$

### Accept – Reject Value:

With the help of ARR, the financial maker can decide whether to accept or reject the investment proposal. As an accept – reject criterion, the actual ARR would be compared with a predetermined or a minimum required rate of return or cut – off rate. A project would qualify to be accepted if the actual ARR is higher than the minimum desired ARR. Otherwise, it is liable to be rejected. Alternatively the ranking method can be used to select or reject proposals under consideration may be arranged in the descending order of magnitude, starting with the proposals with the highest ARR and ending with the proposal with the lowest ARR. Obviously projects having higher ARR would be preferred with projects with lower ARR.

### 2. Pay Back Period:

The Pay Back method is the second traditional method of capital budgeting. It is the simplest and, the most widely employed quantitative method for apprising capital expenditure decisions. This method answers the question. How many years will it take for the cash benefits to pay the original cost of an investment, normally disregarding salvage value? Cash benefits represent CFAT ignoring interest payment. Thus the pay back method measures the number of years required for the CFAT to pay back the original outlay required in an investment proposal.

For example, an investment of Rs. 40,000 in a machine is expected to produce CFAT of Rs 8,000 for 10 years.

$$\text{Rs. } 40,000 \\ \text{Rs. } 8,000 \quad \text{PB} = \text{-----} \rightarrow 5 \\ \text{years.}$$

The second method is used when project cash flows are not uniform (mixed stream) but vary from year to year. In such a situation, PB is calculated by the process of cumulating cash flows till the time when cumulative cash flow becomes equal to the original investment outlay.

### Accept Reject Criteria:

The pay back period can be used as a decision criterion to accept or reject investment proposals. One application of this technique is to compare the actual pay back with a predetermined pay back that is the pay back set up by the management in terms of the maximum period during which the initial investment will be recovered. If the actual pay back period less than the predetermined pay back, the project would be accepted. If not, it would be rejected. Alternatively, the pay back can be used as a ranking method.

When mutually exclusive projects are under consideration, then may be ranked according length of pay back period. Thus, the project has having the shortest pay back may be assigned rank one followed in that order so that the project with the longest pay back would be ranked last. Obviously, projects with shorter payback period will be selected.

### **DISCOUNTED CASH FLOW/ TIME ADJUSTED TECHNIQUES:**

#### **1. Net Present Value Method:**

The net present value is a modern method of evaluating investment proposals. This method takes into consideration the time value of money and attempts to calculate the return on investments by introducing the factor of time element. It recognizes the fact that rupee earned today is worth more than the same rupee earned tomorrow. Net present values of all inflows and outflows of cash occurring during the life of the project is determined separately for each year by discounting these flows by the firm's cost of capital or a pre – determined rate. The following are the Net Present value method of evaluating investment proposals:

- 1) First of all determined an appropriate rate of interest that should be selected as minimum required rate of return called "cut – off rate" of interest in the market and the market- on long term loans or it should reflect the opportunity cost of capital of the investor.
- 2) Compute the present value of total investment outlay, I,e., cash outflows at the determined discount rate. If the total investment is to be made in the initial year, the present value shall be as the cost of investment.
- 3) Compute the present value of total investment proceeds I,e., inflows (profit before depreciation

and after tax) at the above determined discount rate.

4) Calculate the Net present value of each project by subtracting the present value of cash inflows from the value of cash outflows for each project.

5) If the Net present value is positive or zero, I.e., when present value of cash inflows either exceeds or is equal to the present values of cash outflows, the proposal may be accepted. But in case the present value of inflows is less than the present value of outflows, the proposal should be rejected.

6) To select between mutually exclusive projects, projects should be ranked in order of net present values, i.e., the first preferences to be given to the project having the maximum net present value.

The present value of re.1 due in any number of years may be found with the use of the following the mathematical formula:

$$PV = 1/(1+r)^n$$

Where,

PV = present value  
R = rate of interest/ Discount rate  
N = number of years

#### **2. Internal Rate of Return:**

The second discounted cash flow or time-adjusted method of appraising capital investment decisions is the internal rate of return method. This technique is also known as yield on investment, marginal efficiency of capital, marginal productivity of capital, rate of return method. This technique is also known a yield on investment, marginal efficiency of capital, and marginal productivity of capital, rate of return, time-adjusted rate of return and so an.

Like the present value method the IRR method also considers the time value of money by case of the net present value method, the discount rate is the required rate of return and being a predetermined rate, usually the cost of capital, its determinants are external to the proposal under consideration. The IRR, on the other hand it is based on facts, which are internal to the proposals. In other words while

arriving at the required rate of return for finding out present values the cash inflows as well as outflows are not considered. But the IRR depends entirely on the initial outlay and the cash proceeds of the projects, which is been evaluated of acceptance or rejection. It is therefore appropriately referred to as internal rate of return.

The internal rate of return is usually the rate of return that a project earns. It is defined as the discount rate ( $r$ ) which equates the aggregate present value of the Net cash inflows (CFAT) with the aggregate present value of cash outflows of a project. In other words it is that rate which gives the project of Net present value is zero.

#### **Accept Reject Criteria:**

The use of the IRR, as a criterion to accept capital investment decisions, involves a comparison of the actual IRR with the required rate of return also then the cut off rate or hurdle rate. The project would qualify to be accepted if the IRR

- (r) Exceeds the cut off rate.
- (k). If the IRR and the required rate of return are equal the firm is different as to whether to accept or reject the project.

#### **3. Net Terminal Method:**

The terminal value approach (TV) even mere distinctly separates the timing of the cash inflows and outflows. The assumption behind the TV approach is that each cash inflow is reinvested in other asset at a certain rate of return from the moment it is received until the termination of the project.

#### **Accept – Reject Criteria:**

The decision rule is that if the present value of the sum total of the compounded reinvested cash inflows (PVTS) is greater than the present value of the outflows (PVO), the proposed project is accepted otherwise not.

$$\begin{aligned} \text{PVTS} > \text{PVO} &\text{ accept} \\ \text{PVTS} < \text{PVO} &\text{ reject.} \end{aligned}$$

The firm would be indifferent if both the values are equal. A variation of the terminal value method (TV) is the net terminal value (NTV). Symbolically it can be represented as

$\text{NTV} = (\text{PVTS} - \text{PVO})$ . If the NTV is the positive accept the project, if the negative reject the project.

#### **4. Profitability Index:**

The time adjusted capital budgeting is Profitability Index (PI) or Benefit Cost Ratio (B / C). It is similar to the approach of NPV. The profitability index approach measures the present value of returns per rupee invested, while the NPV is based on the differences between the present value of future cash inflows and the present value of cash outflows. A major shortcoming of the NPV method is that, being an absolute measure; it is not reliable method to evaluate project inquiring different initial investments. The PI method proves a solution to this kind of problem. It is, in other words, a relative measure. It may be defined as the ratio, which is obtained by dividing the present value of future cash inflows by the present value of cash inflows.

$$\text{PI} = \frac{\text{Present value of cash inflows}}{\text{Present value of cash outflows}}$$

This method is also known as B / C ratio because the numerator measures benefits and the denominator costs.

#### **Accept Reject Criteria:**

Using the B / C ratio or the PI, a project will qualify for acceptance if its PI exceeds one. When PI equals 1 (one), the firm is indifferently to the project.

When PI is greater than, equal to or less than 1 (one), the Net present value is greater than, equal to or less than zero respectively. In other words, the NPV will be positive when the PI is greater than 1 (one); will be negative when the PI is less than 1. Thus, the NPV and PI approach give the same results regarding the investments proposals.

#### **Methods of Capital Budgeting**

##### **(1) Traditional methods:**

- Pay back period
- Average rate return method

**(2) Discount cash flow method**

- Net present value method
- Initial rate return method
- Profitability index method

**FINDINGS**

- The amount of total investment in assets as increased significantly from 4514.67 cr to Rs. 4581.52 cr.
- The amount of sales has increased from 4873.37 Cr to 5080.91 2Cr (2014-2015) this increased sales helped the organization to improve its business turn over in different sectors
- Pay back period for the project will be 1.69 years it indicates the project earns good yield in future also.
- Average rate of return for the kesoram cements limited is 60.05 %.
- NPV and IRR show a good path for the organization to develop In future markets and also the investments for the investors.
- During the same period profit before tax has decreased from Rs.-377.19 Cr to Rs.-366.68 Cr.
- The ratio of fixed assets to long-term borrowings has not been showing any consistent trend. It has varied from -0.51 times to 0.28 (2015-2019).
- The initial ratio's of the investment are decreased from 10709 Cr to 11930.06 cr (2018-2019) constantly increased period of 5 years.

**SUGGESTIONS**

- As large sum of money is involved which influences the profitability of the firm making capital budgeting an important task.
- Long term investment once made cannot be reversed without significance loss of invested capital. The investment becomes sunk and mistakes, rather than being readily rectified, must often be

born until the firm can be withdrawn through depreciation charges or liquidation. It influences the whole conduct of the business for the years to come.

- Investment decision are the base on which the profit will be earned and probably measured through the return on the capital. A proper mix of capital investment is quite important to ensure adequate rate of return on investment, calling for the need of capital budgeting.
- The implication of long term investment decisions are more extensive than those of short run decisions because of time factor involved, capital budgeting decisions are subject to the higher degree of risk and uncertainty than short run decision.

**CONCLUSIONS**

- The budgeting exercise in KESORAM also covers the long term capital budgets, including annual planning and provides long term plan for application of internal resources and debt servicing translated in to the corporate plan.
- The scope of capital budgeting also includes expenditure on plant betterment, and renovation, balancing equipment, capital additions and commissioning expenses on trial runs generating units.
- To establish a close link between physical progress and monitory outlay and to provide the basis for plan allocation and budgetary support by the government.
- The manual recommends the computation of NPV at a cost of capital / discount rate specified from time to time.
- A single discount rate should not be used for all the capacity budgeting projects.
- The analysis of relevant facts and quantifications of anticipated results and benefits, risk factors if any, must be clearly brought out.
- Inducting at least three non -official directors the mechanism of the Search

- Committee should restructure the Boards of these PSUs.
- Feasibility report of the project is prepared on the cost estimates and the cost of generation.
  - Scope of capital budgeting in KESORAM are
  - \* Approved and ongoing schemes
    - New approved schemes
    - Unapproved schemes
    - Capital budgets for plant betterment's
    - Survey and investigation
    - Research and development budget.

**Internet Sites:**

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