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Role of Capital Budgeting in Long Term Investment

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ABSTRACT

Planning, managing, and allocating resources strategically are all important extremities on making the best possible decisions in any business. The implementation of capital budgeting strategies to meet any company goals, to maintain competitiveness, and to increase profitability and value can be an advantageous step. Capital budgeting helps to determine the risk factors and the return on investment with proper allocation of resources. Doing a market analysis and feasibility research of a metal and alloy company is the main study's goal of this research. For every investment opportunity, examination of cost estimates, revenue forecasts, and risk assessments are foremost. It also looks at the proposal's financial sustainability and the company's long-term survival.
Hence, evaluation of new financial projects' viability using the standard deviation statistical tool, the profitability index, and present value methodologies such as net present value has been included in this study. Also, the R&D makes recommendations for the company to implement changes based on the performance of cash flows as determined by the discounted cash flow technique.

KEY WORDS: Capital Budgeting; Financial Stability; Revenue Improvement; Resource Distribution; Wealth Enhancement

1. INTRODUCTION

Capital budgeting, which enables optimal investment, is a crucial part of finance for businesses and entrepreneurs. Capital budgeting is the tool to examine long-term investment plans to determine proposals which will yield the highest returns on invested capital and effectively assist in achieving the organization's desire objective. This process comprises analyzing the risks, rewards, and financial sustainability of each investment proposal **[1].**

In this fast moving world and cut throat competitive business environment, increasing shareholder wealth and achieving sustainable growth necessitate prudent investment choices. Thus, organizations must adopt robust capital budgeting techniques to effectively distribute their limited financial resources. Capital budgeting enables companies to value projects that offer the greatest substantial revenue while considering risks, timelines, and resource limitations **[2].**

The main goal of capital budgeting is to evaluate the potential and financial viability of investments proposals , taking into account aspects such as anticipated cash flows, risks, the time value of money, and confirmity with the organization's strategic objectives. By thoroughly analyzing and ranking investment initiatives, companies can take well-informed decisions regarding fund distribution, optimal capital structure, which boost shareholder value.

Capital budgeting methods, such as net present value and discounted payback period, are frequently utilized to assess investment opportunities to assess various projects **[3].** These techniques aid in evaluating profitability, risk-countered returns, and the fiscal value generated by investment possibilities, allowing management to choose informed and value-maximization investment choices. Net Present Value is a financial method used in capital budgeting to assess the feasibility of an investment opportunity. It calculates the value between the inflow and outflow of fund associate with the project.

The Internal Rate of Return is one of the key financial measures utilized in capital budgeting to assess the profitability of an investment opportunity. The Profitability Index sometimes called as the Profit Investment

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Ratio, serves as a financial indicator utilized in capital budgeting to assess the appeal of an investment project **[4].** It evaluates the ratio between the present value of cash inflows and the initial capital outlay needed for the project. The importance of capital budgeting cannot be overruled, as it directly effects the company's long-term stability and financial health. Poor investment decisions can lead to missed opportunities, wastage of resources, and potentially severe financial issues **[5].** Conversely, effective capital budgeting methods can enhance company's value, fund distribution, and overall progress.

1.1 Problem Identification

To investigate how capital budgeting methods influence investment choices, a company named Sun Metals & Alloys was selected. The company data was collected and evaluation was made that how implementation of these practices can further affect the company's financial stability and growth **[6].**

1.2 Objectives

- To examine the present financial status of Sun Metals & Alloys Pvt. Ltd.
- To evaluate proposal using capital budgeting methods.
- To analyze risk in investment plans using standard deviation method.
- To offer recommendations for making effective and optimal decisions at Sun Metals & Alloys Pvt. Ltd.

2 METHOD

The research relies on secondary data obtained online. This analysis utilized discounted cash flow methods such as Net Present Value , along with a risk assessment tool involving the statistical technique of standard deviation, focusing on data from the past twenty years, spanning from 2003 to 2023.

3 RESULTS AND DISCUSSION

3.1 Analysis of Present Value Cash Inflows

Table 1 Computation of Present Value of Incoming Cash (₹).

Years	Cash Inflows (Rs in lakhs)	PVIF @10%	Present Value
1	1800	0.9091	1636.38
2	1860	0.8264	1537.104
3	1902	0.7513	1428.9726
4	1930	0.683	1318.19
5	1968	0.6209	1221.9312
6	1998	0.5645	1127.871
7	2034	0.5132	1043.8488
8	2056	0.4665	959.124
9	2079	0.4241	881.7039
10	2107	0.3855	812.2485
11	2145	0.3505	751.8225
12	2211	0.3186	704.4246
13	2267	0.2897	656.7499

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14	2298	0.2633	605.0634
15	2367	0.2394	566.6598
16	2390	0.2176	520.064
17	2416	0.1978	477.8848
18	2498	0.1799	449.3902
19	2556	0.1635	417.906
20	2591	0.1486	385.0226

Source: Financial Statement

Total Present Value of Incoming Cash is Rs 17502.3618.

Explanation:

The data presented encompasses cash inflows, present value factors determined at a discount rate of 10 %, and the current value of incoming cash for each year of a project across a 20-year timeline. It is observed that the current value of inflows declines as time added on, as future inflows are subjected to a higher discount rate each year. Consequently, cash inflows received in the advancing years are worth less in today's currency than those received in earlier years **(Table 1).**

3.2 Computation of Net Present Value [NPV]

NPV = Present value of inflow-Present Value of outflow

PV of Cash Inflow	17502.3618
PV of Cash Outflow	6019.8
Net Present Value(NPV)	11482.5618

Net Present Value = Rs. 11482.56

Table 2 Computation of Present Value @25% ROI

Years	Cash In Flow	Rate of Return @25%	PV @25% Rate of Return
1	1800	0.8	1440
2	1860	0.64	1190.4
3	1902	0.512	973.824
4	1930	0.4096	790.528
5	1968	0.3277	644.9136
6	1998	0.2621	523.6758
7	2034	0.2097	426.5298
8	2056	0.1678	344.9968
9	2079	0.1324	275.2596
10	2107	0.1074	226.2918
11	2145	0.0859	184.2555
12	2211	0.0687	151.8957
13	2267	0.055	124.685

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14	2298	0.044	101.112
15	2367	0.0352	83.3184
16	2390	0.0281	67.159
17	2416	0.0225	54.36
18	2498	0.018	44.964
19	2556	0.0144	36.8064
20	2591	0.0115	29.7965

Source: Financial Statement

Explanation: The NPV investment proposal is defined as the variation between the inflows and outflows of present value . In this analysis, the present cash inflows amounts to Rs. 17502.3618 lakhs, while the present cash outflows totals Rs. 6019.80 lakhs. The resulting positive NPV of Rs11,482.56 lakhs indicates that the present inflow of cash surpasses that of cash outflows, implying that the investment is anticipated to yield profits. Given the discount rate of 10 % applied in this analysis, the project projected to produce good returns and is thus deemed financially stable, as illustrated in **Table 2.**

3.3 Computation of Standard Deviation of Cash Flows

Table 3 Computation of Standard Deviation

Years	PV @25% Rate of Return	$\bar{X}$	$\bar{X}$ (X- $\bar{X}$)	(X- $\bar{X}$)2
1	1440	385.73	1054.27	1111485.233
2	1190.4	385.73	804.67	647493.8089
3	973.824	385.73	588.094	345854.5528
4	790.528	385.73	404.798	163861.4208
5	644.9136	385.73	259.1836	67176.13851
6	523.6758	385.73	137.9458	19029.04374
7	426.5298	385.73	40.7998	1664.62368
8	344.9968	385.73	-40.7332	1659.193582
9	275.2596	385.73	-110.4704	12203.70928
10	226.2918	385.73	-159.4382	25420.53962
11	184.2555	385.73	-201.4745	40591.97415
12	151.8957	385.73	-233.8343	54678.47986
13	124.685	385.73	-261.045	68144.49203
14	101.112	385.73	-284.618	81007.40592
15	83.3184	385.73	-302.4116	91452.77581
16	67.159	385.73	-318.571	101487.482
17	54.36	385.73	-331.37	109806.0769
18	44.964	385.73	-340.766	116121.4668
19	36.8064	385.73	-348.9236	121747.6786
20	29.7965	385.73	-355.9335	126688.6564

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Source: Financial Statement

Sum of Square of Deviation $\sum$ **(X- $\bar{X}$)2=**3307574.752

Number of years (n) = 20

Standard Deviation $\sigma=\sqrt{\sum}$**(X- $\bar{X}$)2/n-1**

$\sigma=\sqrt{}$3307574.752 **/20-1**

$\sigma=\sqrt{}$3307574.752 **/19**

$\sigma=\sqrt{}$174082.881684

σ=417.23

A standard deviation of Rs. 417.23 lakhs signifies the average deviation from the mean value of Rs. 385.73 lakhs. Its suggests a level of stability in the anticipated cash flows, which may influence the overall profit or risk associated with the investment presented in **Table 3**.

3.4. Outcomes

1) The financial status of the company demonstrates variations in cash outflows, reflecting changing financial needs, with significant reductions in investments or expenditures noted in years.
2) This analysis indicates that the unit cost has risen over the past 10 years, implying that the company may be encountering increasing operational or production , which could hinder its growth except mitigated by enhanced efficiency . The company's steadily increasing cash flows over the 10-year period signify robust revenue growth, demonstrating a favorable financial standing characterized by stable profit and the potential for long-term growth.
3) The diminishing present value of cash inflows throughout the 10-year span suggests that the future earnings of the project are subject to greater discounting, which may adversely affect the company's overall financial health and appeal to investors.
4) The positive NPV signifies that the venture is anticipated to yield profit making, indicating a powerful financial condition, along with promising investment opportunities of the company
5) The elevated PI suggests that the project is exceptionally appealing, offering considerable returns in relation to the investment, which is advantageous for the company's financial status and prospects for outstanding profiabilityt.
6) The revenue is indicated by a comparatively high standard deviation in relation to the mean which forecasts the project considerable risk, reflecting an unfavorable and insecure financial situation for the company.

4 CONCLUSIONS

In light of the objectives established regarding the project at Sun Metals &Alloys Pvt. Ltd., the analysis has effectively evaluated the financial standing and examined its performance utilizing capital budgeting methods. The findings derived from these evaluations offer important perspectives on the company's stability and investment strategies. The metrics indicate that the investment made by the company's choices are poised to yield profitability, and the projects being contemplated possess the capacity to deliver significant returns. The study concludes that Sun Metals &Alloys Pvt. Ltd. maintains a stable financial position and is enhancing its investment decision-making processes.

Conflict of interest The authors declare that they have no conflict of interest.

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