

A COMPREHENSIVE STUDY ON FINANCIAL CAPITAL BUDGETING WITH REFERENCE TO FUSION BLOCKS PVT LTD, TIKKAVARAM

***N. Srilekha¹, and Mr.SK. Khadar Basha²**

Department of management studies, Narayana Engineering College (Autonomous), Gudur

ABSTRACT

Capital budgeting is a vital financial planning process that enables businesses to evaluate and select long-term investment projects based on their potential profitability and strategic alignment. This study focuses on understanding the practical application of capital budgeting techniques such as Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period, each offering unique insights into project viability. The research highlights the strengths and limitations of these methods in guiding sound investment decisions. In addition to financial calculations, the study also emphasizes the importance of assessing factors like risk, project compatibility, and capital rationing when allocating resources. By applying these techniques, businesses can prioritize projects that not only promise returns but also fit their growth strategies and enhance shareholder value. This comprehensive analysis aims to offer a clear understanding of how capital budgeting supports effective decision-making and long-term financial planning, especially in a competitive and resource-constrained business environment.

Key words capital, equity, investment, long term planning.

INTRODUCTION

Fusion Building Materials Private Limited is a subsidiary of Fusion group of Companies. Fusion group is a multifaceted organization that is well-established in the infrastructure industry. The business journey of the group was started with the thought of making the industry eco-friendly. Fusion Building Materials Private Limited is a subsidiary of Fusion group of Companies. Fusion group is a multifaceted organization that is well-established in the infrastructure industry. The business journey of the group was started with the thought of making the industry eco-friendly. Fusion Blocks Thikkavaram is a notable manufacturing unit specializing in the production of high-quality concrete blocks and construction materials. Located in Thikkavaram, the company plays a crucial role in supporting local infrastructure and construction projects. Its products are widely used in both residential and commercial developments due to their durability, affordability, and eco-friendly composition. The company is significant not only for its contribution to the construction industry but also for its impact on local employment and economic development. By employing local workers and sourcing raw materials from nearby suppliers, Fusion Blocks promotes regional growth and sustainability. Moreover, its consistent quality and customer-oriented approach have helped it establish a strong reputation in the competitive building materials market. The Building Materials Industry is made up of Builders Merchants and Materials Suppliers. Builders Merchants supply products and materials to construction companies, trades people and the general public. They make up and deliver orders and also advise customers on which products to use for particular jobs. The Building Material market includes brick, cement,

sand, aggregates, and stone manufacturers. Amongst the utmost used building materials are glass, steel, plastics, cement, and wood. The industry producers are associated with industries containing manufacturers and furniture manufacturers. Increasing demand for housing units & infrastructural facilities, rising urbanization, growing real estate investments, and the Popularity of stamped & decorative concrete are the factors driving the growth of the global building materials market. Capital budgeting in corporate finance is the planning process used to determine whether an organization's long term capital investments such as new machinery, replacement of machinery, new plants, new products, and research development projects are worth the funding of cash through the firm's capitalization structure (debt, equity or retained earnings). It is the process of allocating resources for major capital, or investment, expenditures. An underlying goal, consistent with the overall approach incorporate finance, is to increase the value of the firm to the shareholders. Capital budgeting is a financial planning tool used by firms to evaluate and allocate resources toward potential investments, with the goal of maximizing shareholder wealth .

LITERATURE REVIEW

Kengatharan (2016) identifies a gap between capital budgeting theory and its practical application. The study highlights the preference of firms for simpler techniques like the Payback Period over advanced methods such as NPV or IRR due to behavioral and contextual factors. The paper recommends more empirical studies to bridge this gap, especially focusing on behavioral finance integration into investment decisions.

Nurullah and Kengatharan (2015) explored capital budgeting techniques adopted by firms in Sri Lanka. The research found that traditional tools like Payback Period and Accounting Rate of Return were more popular than advanced discounted cash flow models. The study attributes this trend to lack of financial literacy and the influence of market uncertainty.

Batra and Verma (2017) examined capital budgeting practices in Indian companies, concluding that while awareness of NPV and IRR exists, actual usage is limited, especially in small and medium enterprises. The study highlights that firm size, market conditions, and managerial expertise significantly influence the choice of budgeting tools.

Baker et al. (2021) performed a comprehensive review covering 50 years of capital budgeting research. Their findings suggest that while theoretical models have evolved, their real-world adoption lags due to market risks and human factors. The authors suggest future research should explore emerging financial technologies to enhance budgeting precision.

Lacerda et al. (2019) conducted a systematic literature review of capital budgeting techniques and found that modern firms favor hybrid models that combine traditional DCF methods with qualitative assessments. The study emphasizes the role of context and organizational strategy in selecting capital budgeting tools.

Jacobs (2008) reviewed capital budgeting in the public sector, emphasizing that government projects often ignore profitability measures and focus more on socio-economic returns. The study argues for introducing private sector-style financial analysis to improve transparency in public investments.

Al Wahaibi et al. (2024) analyzed capital budgeting in SMEs, highlighting a heavy dependence on informal methods such as intuition and past experience rather than scientific techniques. The authors recommend training programs to improve SMEs' strategic financial planning.

Trigueiro et al. (2018) focused on risk management within capital budgeting decisions. The authors revealed that many firms fail to fully quantify uncertainty, often relying on subjective judgment, which leads to suboptimal investment decisions.

Lazaridis (2004) studied Cypriot firms and found that a majority still depend on Payback Period rather than NPV or IRR. The author attributes this to limited access to financial data and a conservative business culture.

Truong et al. (2008) analyzed Australian firms and reported that although most firms understand cost-of-capital concepts, they often use company-wide discount rates rather than project-specific rates, leading to misallocation of resources in investment decisions.

RESEARCH METHODOLOGY

A Financial structure should be based on the investment and evaluate long term growth of the organization and analyzing a project's cash inflows and outflows to determine whether the expected return meets a set benchmark. Based on all, I choose to opt for CAPITAL BUDGETING as a topic in project research and prepared beneficial points relatively. I preferred capital budgeting as a topic in research mainly to explore everyone regarding the benefits of capital budgeting in the organizations. The success and failure of business mainly depends on capital budgeting. Capital budgeting is necessary because large sums of money are involved for accruing fixed assets. Capital budgeting is important because it creates accountability and measurability. Any business that seeks to invest its resources in a project without understanding the risks and return involved would be held as irresponsible by its owners or shareholders. The scope of the study on Capital budgeting encompasses a comprehensive exploration and evaluation of financial metrics to provide understanding of an organization's financial performance. This study seeks to contribute to the existing body of knowledge by addressing these aspects and offering a more contemporary and holistic perspective on the concept of ratio analysis in financial analysis and decision-making. Further the study is based on last 5 years Annual Reports of Fusion Blocks Pvt Ltd, Tikkavaram.

OBJECTIVES

- To study and ensure planning for the future by setting up various budgets.
- To know the Sales budget of the company.
- To analyze the elimination of wastage and increase in profitability.
- To evaluate the effectiveness of the capital budgeting expenditure decisions.

Research Design

This study adopts a descriptive research design to analyze the financial performance of Fusion Blocks Pvt Ltd. from 2020 to 2024. The design focuses on examining and interpreting financial statements using tools such as Capital budgeting, trend analysis, and comparative financial statements. Secondary data has been collected from the company's annual reports, financial

databases, and other reliable sources. The objective is to evaluate the firm's profitability, liquidity, solvency, and overall financial stability.

The study on financial statement analysis of Fusion Blocks Pvt Ltd. follows a descriptive research design. It aims to analyze the financial performance of the company by interpreting financial statements such as the balance sheet, income statement, and cash flow statement over a period. The research identifies trends, financial strengths, and weaknesses to provide insights into the company's overall financial health.

- Payback Period Analysis
- Net present value method
- Average Rate of Return
- Internal Rate Of Return

This study relies on secondary data obtained from company annual reports, financial statements, audit reports, and relevant industry reports. Additional financial data may be collected from company websites, stock market reports, and government publications. The collected financial data will be analyzed using various financial tools and techniques capital Budgeting (Payback Period Analysis, Net present value method, Average Rate of Return, etc.) trend Analysis to observe financial performance over multiple years comparative Financial Statements to compare different periods common Size Analysis to understand the proportion of different financial components.

DATA ANALYSIS AND INTERPRETATION

Payback Period Analysis

The Payback Period method is a simple capital budgeting technique used to evaluate investment projects. It calculates the time required to recover the initial investment from the project's cash inflows. This method helps in assessing the risk and liquidity of an investment. A shorter payback period is generally preferred, as it indicates quicker recovery of funds. However, it does not consider the time value of money or cash flows after the payback period.

Table -1: Payback Period Analysis

Tears	Cost of the Asset (Rs.In Crore)	Annua l cash Inflow (Rs.In Crore)	Payback period
2020	3.347	.821	4.1
2021	3.255	.889	3.7
2022	2.962	.883	3.4
2023	2.899	.753	3.9
2024	2.91	.849	3.3

Source: Secondary Data

Above table explains The above table clearly shows that the payback period differs according to the amount invested in particular years. The 'X' axis denotes first 5 years from 2020. The 'Y'

axis denotes time period. In the first year 2020, annual cash inflow is .821 crores and the payback period 4.1 and the payback period for fifth year 2021 are 3.3. Comparatively payback period for the year 2024 is less.

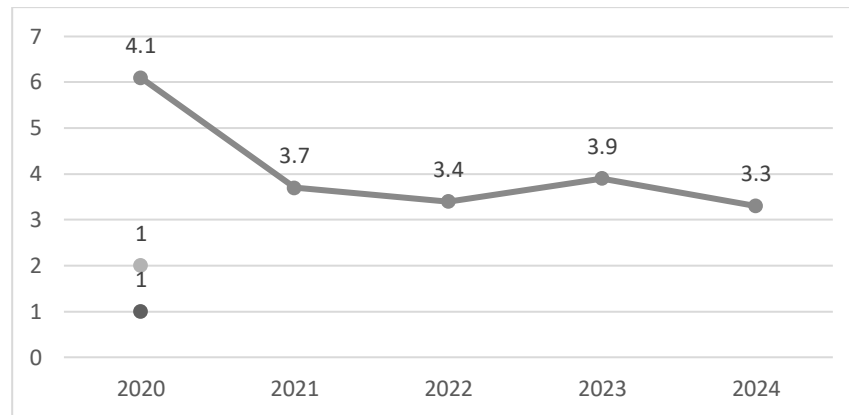


Figure 1 Payback Period Analysis

Above figure shows that about this line represents the trend of the payback period over the years 2020 to 2024. The payback period initially decreased significantly from 2020 to 2022, then increased in 2023 before decreasing again in 2024

Net present value method

The Net Present Value (NPV) method is a financial technique used to evaluate investment opportunities by calculating the present value of expected cash flows. It considers the time value of money by discounting future cash inflows and outflows. A positive NPV indicates a profitable investment. Net present value = Present value of all cash inflows – present value of initial investment.

Table -2: Net present value method

Year	Cashoutflow s (Rs.InCrore)	Discounting presentvalue Table (Presentvalu eof Re.1 @10 %)	PresentValue of Net Cash Flows	Cashinflow
2020	3.347	0.909	3.042423	3.347
2021	3.255	0.826	2.68863	3.255
2022	2.962	0.751	2.224462	2.962
2023	2.899	0.683	1.980017	2.899
2024	2.91	2.91	1.80711	2.91
		TOTAL=	11.742642	15.373

Source: Secondary Data

Above table explains The acceptance rule using the Net Present Value method is to accept the investment project if its net present value is positive and to reject if it's NPV is negative. Positive contributes to the net wealth of the shareholders, which should result in the increased price of a

firm's share. The positive net present value will result only if the project generates cash inflows at a rate higher than the opportunity cost of capital.

Accept the project when $NPV > 0$

Reject the project when $NPV < 0$

May or may not accept the project when $NPV = 0$

Above table clearly indicates that the Net Present Value for the 5 years from 2020 to 2024 is 3, 63, 03,580.

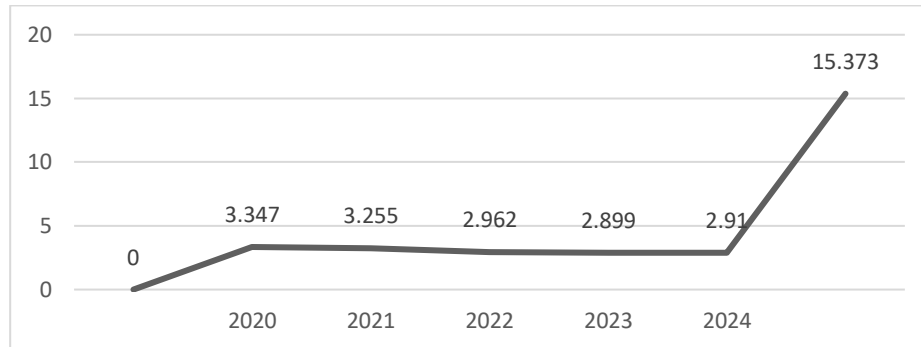


Figure 2 Net present value method

Above figure tells that about The graph shows the trend of two different quantities (represented by the orange and blue lines) over a period of time (roughly 2020-2024), possibly under a specific initial condition indicated by (@10%). The orange quantity quickly reached its peak and stayed there, while the blue quantity grew significantly initially but then stabilized with minor fluctuations.

Average Rate of Return

The Accounting Rate of Return (ARR) method is a capital budgeting technique used to evaluate the profitability of an investment. It calculates the return based on accounting profit rather than cash flow. ARR is expressed as a percentage of the average investment.

$$\text{Average Rate of Return} = \frac{\text{AVERAGE INCOME}}{\text{AVERAGE INVESTMENT}}$$

Table -3: Average Rate of Return

Year	Annual profit	Investment	Rate of return %
2020	0.821	3.347	24.52943
2021	0.889	3.255	27.31183
2022	0.883	2.962	29.81094
2023	0.735	2.899	25.35357
2024	0.894	2.91	30.72165

Source: Secondary Data

Above table explains The chart shows that, in the year 2020 and in the year 2024 the company had lower expected rate of return than the minimum rate so the investment on the particular

project can be reduced. In the year 2020, 2021, 2022, 2023, 2024 the project has a higher rate of return than the minimum rate. Higher rate of return indicates that investment made in the particular year has higher cash inflow in the future.

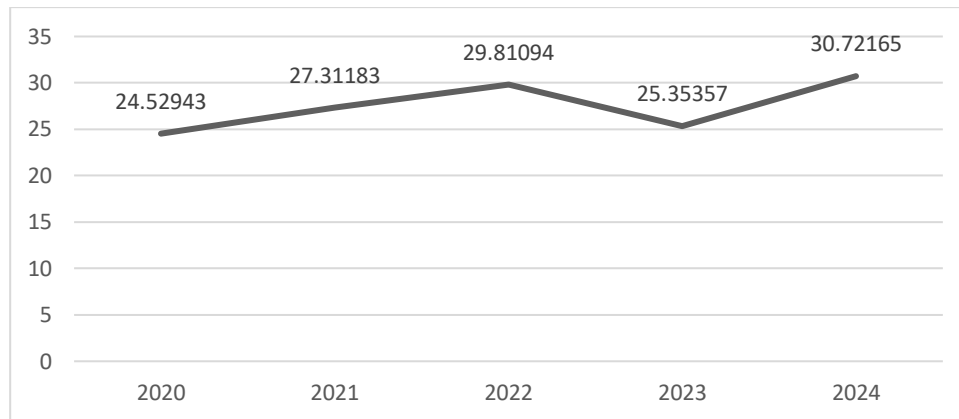


Figure 3 Average Rate of Return

Above figure tells that the graph indicates an initial period of growth, followed by a decline, and then a subsequent recovery and further growth in the value being tracked.

Internal Rate Of Return

The Internal Rate of Return (IRR) is a financial metric used to evaluate investment profitability. It is the discount rate that makes. IRR helps in comparing the desirability of different investments or projects. A higher IRR indicates a more profitable investment. It is widely used in capital budgeting and investment planning decisions.

$$\text{Internal Rate Of Return} = LDF\% + DF \frac{PVLDF - COF}{PVLDF - PVHDF}$$

Table -4: Internal Rate Of Return

YEAR	CFAT	TVPS (Rs)	DF (10%)	DF (30%)	TVPS (Rs)
2020	.821	3.347	0.909	0.769	0.631
2021	.889	3.255	0.826	0.592	0.526
2022	.883	2.962	0.751	0.455	0.402
2023	.735	2.899	0.683	0.350	0.257
2024	.894	2.91	0.621	0.269	0.240
PV of Cash		Cash Inflows	15.373	2.056	
Less: P V of		Cash Outflows	11.742	2.056	
Net Present Value			3.631	-1.575	

Source: Secondary Data

Table 4 explains the chart shows that, in the year 2020 and in the year 2024 the company had lower expected internal rate of return than the minimum rate so the investment on the particular project can be reduced. In the year 2020, 2021, 2022, 2023, 2024 the project has a higher internal rate of

return than the minimum rate. Higher rate of return indicates that investment made in the particular year has higher cash inflow in the future.

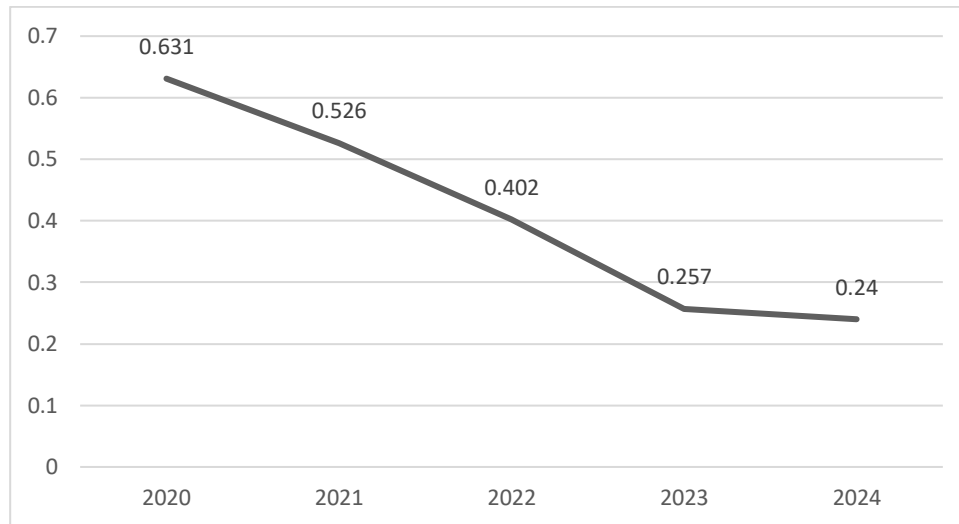


Figure 4: Internal Rate of Return

Above figure shows that the trend indicates that the Internal Rate of Return decreased significantly from 2020 to 2023, suggesting a less profitable or efficient investment over time during this period. While there was a small recovery in 2024, the overall IRR remained lower than the initial values.

ANALYSIS OF FINDINGS

The ACC blocks project has 3.19 of payback period and plastering mortar project has 4.91 of payback period. The project is accepted when pay back is less than 5 years which is Standard payback set by the management. So, less payback period is accepted. As per the management the minimum rate of return expected is 10%. The project ARR Greater than 40% then, ACC blocks project is accepted. The net income of the project is discounted at the minimum required rate return which is greater than 8% and NPV is positive so the project is accepted. The current year 2022 payback period is found to be in 1 year, this shows that the company recovers its investment in 2 years.

RECOMMENDATIONS

Managers

It is recommended that the manager use multiple evaluation techniques such as Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period, and Profitability Index to ensure a comprehensive analysis of investment opportunities. Emphasis should be placed on selecting projects that provide long-term value and align with the company's strategic objectives. Additionally, it is important to assess the risks and uncertainties associated with each project through sensitivity analysis to make more informed decisions. The manager should also ensure that capital budgeting decisions support sustainable growth rather than short-term gains. Lastly, continuous monitoring and periodic review of the performance of selected projects are essential to maximize returns and make necessary adjustments when needed.

Policy Makers

Policymakers should establish clear and transparent guidelines for capital budgeting to ensure efficient allocation of public resources. It is important to prioritize projects based on social and economic benefits, focusing on those that promote sustainable development and long-term value creation. Incorporating evaluation tools such as Cost-Benefit Analysis, Net Present Value (NPV), and Internal Rate of Return (IRR) can improve decision-making and ensure accountability. Policymakers must also consider the risks, environmental impact, and equity of access while selecting and funding capital projects. Regular monitoring, evaluation, and public reporting are essential to maintain transparency, build public trust, and ensure that capital investments deliver the intended outcomes.

Industry Development

For effective industry development, it is essential to implement strategic capital budgeting practices that support innovation, infrastructure growth, and competitiveness. Industries should be encouraged to invest in modern technology, research and development, and skill enhancement through well-planned capital projects. Decision-makers must prioritize investments that promise long-term productivity and economic impact, using tools like NPV, IRR, and Payback Period to assess feasibility. Government and financial institutions can play a key role by offering incentives and support for capital-intensive projects in emerging sectors. A strong focus on sustainability, resource optimization, and risk management will further ensure that capital investments contribute meaningfully to industrial growth and national development.

Scholarly Contribution

To enhance scholarly contribution to capital budgeting, researchers and academicians should focus on developing advanced models and frameworks that address current challenges in investment decision-making. There is a need for more empirical studies that analyze the effectiveness of various capital budgeting techniques in different sectors and economic conditions. Scholars should also explore the integration of modern tools such as data analytics, artificial intelligence, and sustainability metrics into capital budgeting practices. By bridging the gap between theory and practice, academic contributions can guide policymakers and industry leaders toward more informed and efficient investment decisions. Collaborative research involving academia, industry, and government can significantly enrich the understanding and application of capital budgeting methods.

Scope For Further Study

There is significant scope for further research in the field of capital budgeting, especially in adapting traditional techniques to modern business environments. Future studies can explore the integration of sustainability and environmental, social, and governance (ESG) factors into capital budgeting decisions. Additionally, the role of emerging technologies like artificial intelligence, machine learning, and big data analytics in improving investment evaluation and forecasting accuracy presents a promising research avenue. Researchers can also investigate sector-specific challenges and develop tailored capital budgeting models for industries such as healthcare, renewable energy, and technology. Cross-country comparative studies can further enhance the

global understanding of capital budgeting practices, leading to more robust and adaptable decision-making frameworks.

Limitations

The following are the various limitations involved in the study. The company's certain information is kept secret. The period of study restricted only to ten years. The study is based on the past records of the company. The study concentrates only on capital budgeting of the company.

CONCLUSION

The planning process which is used to determine whether the long term investments of an organization such as replacement machinery, products that are new, new plants and research development projects are worth seeking is the Investment appraisal or capital budgeting. Thus, capital budgeting or investment decisions are of considerable importance to the firm, since they tend to determine its value by influencing its growth, profitability and risk. The analysis of payback period and Average Rate of Returns conclude that management should take efforts perform the capital budget in efficient manner.

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