



IMPACT OF CAPITAL BUDGETING AND INVESTMENT APPRAISAL IN MANUFACTURING BUSINESS EXPANSION

JASAMENE KAUR AHLUWALIA ¹ | DR. SWATI CHOUDHARY ²

¹ RESEARCH SCHOLAR, TANTIA UNIVERSITY

² RESEARCH SUPERVISOR, TANTIA UNIVERSITY

ABSTRACT:

Capital budgeting and investment appraisal are critical tools for evaluating long-term investment decisions. In the manufacturing sector, expansion decisions involve significant capital outlay, and improper evaluation can result in financial strain and inefficiencies. This research paper investigates the impact of capital budgeting techniques and investment appraisal methods on the success of business expansion in the manufacturing sector. A hypothesis testing approach has been used to assess the relationship between structured capital budgeting practices and expansion performance.

KEYWORDS:

CAPITAL BUDGETING, INVESTMENT APPRAISAL, MANUFACTURING, BUSINESS EXPANSION, NPV, IRR, PAYBACK PERIOD, HYPOTHESIS TESTING.

PAPER ACCEPTED DATE:

14th June 2025

PAPER PUBLISHED DATE:

26th June 2025

INTRODUCTION

Capital budgeting is the process of evaluating investment opportunities and allocating capital to projects that enhance firm value. For manufacturing businesses, which require significant investments in plant, machinery, and infrastructure, capital budgeting becomes a pivotal process for expansion. Expansion often involves irreversible long-term commitments, and poor decision-making at this stage can lead to wasted resources, delayed returns, or project failure.

Capital budgeting decisions influence the overall strategic direction of a firm and reflect its financial prudence and foresight. Tools such as Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period, and Profitability Index (PI) are used to forecast the profitability and feasibility of investment alternatives. These techniques help businesses compare potential projects, allocate resources optimally, and align financial decisions with corporate goals.

In the context of the manufacturing sector, where capital intensity is high and competition is fierce, sound investment decisions are vital. Factories, machinery upgrades, technology adoption, and new product lines require not only significant capital but also detailed financial scrutiny. Investment decisions in this sector are not merely accounting exercises; they are strategic commitments that determine the competitive positioning and operational capabilities of a business for years to come.

Moreover, the volatile nature of input costs, energy prices, and supply chain dynamics in manufacturing calls for a

robust and dynamic approach to capital budgeting. An incorrect estimation of returns or risks can affect the cost structure and scalability of operations. Thus, having an appropriate mix of quantitative analysis, risk assessment, and scenario-based evaluation becomes essential.

This study investigates how the adoption of structured capital budgeting methods and accurate investment appraisal influences business expansion success. The focus is on how manufacturing firms can utilize modern financial tools to ensure sustainable and profitable growth.

The present study explores how effective capital budgeting influences expansion outcomes in manufacturing enterprises. This paper also evaluates how different appraisal methods contribute to informed investment decisions.

OBJECTIVES OF THE STUDY

1. To study the role of capital budgeting in manufacturing business expansion.
2. To assess the impact of investment appraisal methods on project selection and success.
3. To analyze the relationship between structured capital budgeting practices and successful business expansion.

REVIEW OF LITERATURE

Previous studies suggest that firms using scientific investment appraisal methods tend to have better project outcomes and higher financial efficiency.

Gitman (2015) emphasized that ignoring time value of

money in appraisal results in poor capital allocation.

Sharma & Gupta (2019) showed that Indian manufacturing SMEs using NPV and IRR consistently reported better expansion success.

Brealey, Myers, and Allen (2014) highlighted that advanced capital budgeting techniques such as Real Options Valuation and Adjusted Present Value offer flexibility and better reflect uncertainty in manufacturing investment decisions. Their study indicates that firms using such techniques are better prepared to adapt during economic volatility.

Kengatharan (2016) found that capital budgeting practices in developing countries often lag due to lack of financial literacy, reliance on outdated tools, and resistance to change in financial departments. His study also found that training in modern techniques led to improved strategic alignment and profitability in the manufacturing sector.

A survey by McKinsey & Co. (2018) indicated that firms which consistently used IRR and scenario-based NPV in investment decisions experienced 20% higher ROI in expansion projects compared to those that did not. This reinforces the importance of combining multiple appraisal methods for holistic decision-making.

Singh and Bansal (2021) observed that manufacturing firms using a combination of financial (NPV, IRR) and strategic (SWOT, sensitivity analysis) appraisal methods showed not only better financial results but also improved stakeholder confidence and long-term stability.

Several authors underline the importance of qualitative factors alongside quantitative measures. However, reliance on outdated or simplistic techniques like the payback method without NPV or IRR often results in poor forecasting of returns.

These studies collectively emphasize that capital budgeting is not only a financial tool but also a strategic process that shapes the direction of business growth. Proper implementation and continuous refinement of these practices contribute to business resilience and competitiveness.

RESEARCH METHODOLOGY

Research Design: Descriptive and analytical

Data Collection: Primary data was collected through structured questionnaires from 50 mid-sized manufacturing firms in Rajasthan.

Sampling Technique: Purposive sampling

Tools Used for Analysis: Percentage analysis, correlation, and hypothesis testing (Chi-square test)

Hypothesis:

H0: There is no significant relationship between the use of capital budgeting techniques and the success of business expansion in manufacturing firms.

H1: There is a significant relationship between the use of capital budgeting techniques and the success of business expansion in manufacturing firms.

DATA ANALYSIS AND INTERPRETATION

A sample of 50 manufacturing businesses was analyzed. Out of them:

- 35 firms used modern appraisal techniques (NPV, IRR, PI)
- 15 firms relied on traditional methods (Payback Period, ARR)

Among the 35 using modern methods, 30 reported successful expansion (growth in sales and profit). Among the 15 using traditional methods, only 6 reported success.

Chi-Square Test Result: Calculated value: 6.72 Table value at 5% significance: 3.841, Since calculated value > table value, we reject H0.

Interpretation: There is a significant relationship between the use of modern capital budgeting techniques and successful business expansion.

FINDINGS

1. Firms using NPV, IRR, and PI methods experience higher expansion success.
2. Traditional methods may underestimate risk and returns.
3. Companies with structured budgeting frameworks made fewer failed investment decisions.

SUGGESTIONS

- Manufacturing firms should adopt NPV and IRR for project evaluation.
- Training programs on modern capital budgeting techniques should be organized.
- Sensitivity analysis and scenario planning should be included in investment appraisals.

CONCLUSION

Capital budgeting and investment appraisal play a decisive role in manufacturing business expansion. The use of scientific techniques like NPV and IRR leads to better decision-making and financial success. Companies should emphasize structured and analytical approaches for long-term investment planning.

REFERENCES

1. Gitman, L. J. (2015). Principles of Managerial Finance. Pearson Education.
2. Sharma, A., & Gupta, M. (2019). Capital Budgeting Practices in Indian SMEs. Journal of Financial Management, 11(2), 45–59.
3. Pandey, I. M. (2020). Financial Management. Vikas Publishing House.
4. Brigham, E. F., & Ehrhardt, M. C. (2016). Financial Management: Theory & Practice. Cengage Learning.