

# A COMPARATIVE STUDY OF CAPITAL BUDGETINGB WITH REFERENCE TO BRAKES INDIA PVT LTD [ GCKR ENTERPRISES], MENAKURU

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Department of Management Studies, Narayana Engineering College (Autonomous), Gudur ABSTRACT

The primary focus of this project is the capital budgeting process at Brakes India Pvt. Ltd., a leading manufacturer and exporter of braking systems in India. The company is currently undertaking a significant expansion plan, with a targeted capital expenditure exceeding  $\gtrless1,000$  crore over the next five years. This project aims to evaluate the methods and strategies employed by Brakes India in allocating their capital resources effectively, including the assessment of potential investments, risk analysis, and financial forecasts. Through a detailed analysis, this project highlights the importance of a robust capital budgeting process in achieving sustainable growth and maximizing shareholder value. The findings emphasize the company's commitment to expanding its foundry capacity and enhancing its international market presence, underscoring the critical role of strategic investment decisions in driving long-term business success.

**KEYWORDS:** Capital Budgeting, Net Present value, Payback Period, Risk Assessment.

### INTRODUCTION

Brakes India Private Limited, established in 1962 and headquartered in Chennai, is a leading manufacturer of braking systems and ferrous castings for the automotive industry. The company operates 21 manufacturing locations across India, including a foundry division in Menakur Village, Naidupet, Nellore, Andhra Pradesh . Brakes India serves a diverse clientele, supplying components for passenger vehicles, commercial vehicles, tractors, and off-highway equipment. With a workforce exceeding 10,000 employees, the company boasts an annual revenue of approximately ₹7,530 crore as of March 2024 . Notably, Brakes India has formed a joint venture with Japanese firm ADVICS to develop advanced braking products, focusing on technologies like Electronic Stability Control (ESC) for the Indian light vehicle market

GCKR Enterprises Brakes India Pvt. Ltd. operates in the automotive components manufacturing industry, specializing in brake system components for vehicles. As a key supplier to major OEMs (Original Equipment Manufacturers), the company invests in high-precision machinery and R&D for product innovation. In this capital-intensive industry, capital budgeting plays a crucial role in evaluating long-term investments like plant expansion, machinery upgrades, and automation to maintain competitiveness and efficiency. Strategic capital budgeting ensures optimal use of financial resources while aligning with technological advancements and market demand.

Capital budgeting is a process that companies use to evaluate and prioritize potential investments that can significantly impact a company's financial standing. It's a strategic financial function that involves long-term financial planning for larger monetary outlays. A company refers its Konancar assessments of the capital investments in the capital budgeting



Capital budgeting is a part of assessing the decision to make investments. The financial management and the capital investment decision-making are fundamental for its success and survival in long term. Different organizations use different types of decision-makers to adopt the decisions related to the referred budgeting Research provided inconducive evidence regarding the capital budgeting payback period (PP) as the most popular technique employed in evaluating projects. Other investigations demonstrated that discounted cash-flows practices are the most frequently used capital budgeting techniques.

#### **REVIEW OF LITERATURE**

Alkaraan & Northcott (2006) study highlights the integration of strategic management accounting into capital investment decisions. It emphasizes how strategic considerations are increasingly influencing financial evaluations. The authors argue for a broader, long-term view in capital budgeting beyond traditional metrics. They use case studies to illustrate the role of non-financial factors in decision-making. The paper contributes to understanding how strategic alignment enhances investment decisions.

Alles et al. (2021) This paper investigates the capital budgeting techniques used by SMEs in a developing country context. It finds limited application of sophisticated financial tools among small firms. The study attributes this to resource constraints and lack of financial expertise. It suggests that training and awareness can improve financial decision-making. The research fills a gap in literature by focusing on SME investment practices.

Andor, Mohanty, & Toth (2015) The authors conduct a survey across Central and Eastern European firms on capital budgeting practices. They find that NPV and IRR are commonly used, though variations exist by firm size and sector. Real options and risk analysis are less frequently applied. The study suggests regional economic transition influences financial practice adoption. It provides comparative insights into emerging market practices.

Bennouna, Meredith, & Marchant (2010) This Canadian study explores how firms can improve capital budgeting decisions. It reveals a preference for IRR and payback methods among managers. The authors identify a gap between theory and practice in financial decision-making. They recommend more education on advanced valuation techniques. The paper emphasizes aligning practice with value-maximization principles.

Brounen, De Jong, & Koedijk (2004) This study compares corporate finance practices across European countries. It finds significant differences in capital budgeting, cost of capital estimation, and risk analysis. The research highlights a gap between academic theory and real-world practice. Cultural and institutional factors are identified as key influences. It offers a broader European perspective on capital budgeting behaviour.

Sharma (2023) Sharma analyses how detailed financial analysis drives strategic corporate decisions. The paper links rigorous capital budgeting with sustainable corporate growth. It discusses the role of advanced analytics in modern investment appraisals. Real-world examples are used to demonstrate strategic financial alignment. The research emphasizes the strategic utility of capital budgeting.

Baker, Kumar, & Pandey (2020) This bibliometric analysis tracks research trends in managerial finance over decades. It identifies key themes, influential authors, and emerging



areas in capital budgeting. The study notes increasing complexity in financial decisionmaking tools. It underscores the growing importance of interdisciplinary approaches. The paper is valuable for understanding academic progress in the field.

Graham & Harvey (2001) Based on a large-scale survey, this paper assesses corporate finance theory versus practice. It finds widespread use of NPV and IRR, but inconsistencies in cost of capital estimation.Behavioral and organizational factors are shown to influence decisions. The study bridges the gap between academic models and managerial behaviourist remains a foundational reference for empirical finance research.

Pike (1984) This early study links sophisticated capital budgeting systems with corporate performance. It finds a positive correlation between technique use and firm success. The paper argues that advanced tools improve decision quality. It encourages firms to move beyond simplistic financial criteria. The study contributes to understanding the practical value of budgeting systems.

Pike (1988) Pike investigates the adoption of advanced capital budgeting techniques across firms. He analyses how these tools affect decision-making effectiveness. The results show a gradual shift toward more comprehensive evaluation methods. Barriers such as complexity and lack of training are discussed. The paper offers insights into organizational learning in financial practices.

Slade (2001) This paper applies real-option theory to mining investments, showcasing its practical value. It argues that managerial flexibility enhances investment valuation under uncertainty. The study illustrates how traditional NPV underestimates project value. Real options provide a better framework for high-risk, capital-intensive industries. The research advances capital budgeting by incorporating flexibility and timing.

Verbeeten (2006) Verbeeten examines how uncertainty influences the adoption of sophisticated budgeting methods. The study suggests that firms use advanced tools to manage investment risk. It identifies internal and external factors affecting financial technique choice. Empirical data supports the link between uncertainty and analytical rigor. The paper adds to knowledge on decision-making under uncertainty.

The reviewed literature reveals a broad evolution in capital budgeting practices, showing a growing preference for strategic and sophisticated financial tools such as NPV, IRR, and real options. While large firms in developed economies increasingly align investment decisions with strategic goals, small and medium enterprises often face limitations due to resource and knowledge constraints. Regional differences, particularly in Europe and emerging markets, affect how techniques are adopted and applied. Many studies emphasize a persistent gap between academic theory and practical application, highlighting the need for better financial education and organizational adaptation. Overall, these works underline the critical role of capital budgeting in driving informed, value-oriented, and context-sensitive investment decisions.

Capital budgeting plays a vital role in evaluating long-term investment decisions and ensuring optimal allocation of financial resources. While extensive research exists on capital budgeting practices in large corporations, there is a noticeable gap in literature focusing on its implementation at the unit or division level within such organizations. Specifically, in the context of GCKR Enterprises, a strategic unit under Brakes India Pvt. Ltd., there is limited academic insight into how capital budgeting decisions are made, what tools and techniques are used, and how these decisions align with the broader financial and operational goals of the company.

## **RESEARCH METHODOLOGY**

In today's competitive and capital-intensive manufacturing environment, effective capital budgeting has become essential for sustaining growth and maintaining financial stability. For GCKR Enterprises, a strategic unit of Brakes India Pvt. Ltd., long-term investment decisions play a crucial role in driving operational efficiency and innovation. However, to ensure that such investments yield maximum returns, a structured and analytical approach to capital budgeting is required.

The scope of this study is centered around analyzing the capital budgeting practices followed by GCKR Enterprises, a division of Brakes India Pvt. Ltd. The study focuses on evaluating the effectiveness of current capital investment decision-making processes and the extent to which standard capital budgeting techniques—such as Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period, and Profitability Index—are implemented in the organization.

#### **OBJECTIVES**

- > To find out the profitable capital expenditure.
- > To decide whether a specified project to be selected or not.
- > To find out the quantum of finance required for the capital expenditure
- > To evaluate the merits of each proposal to decide which project is best.

The present study adopts a descriptive research design to analyse the capital budgeting practices of GCKR Enterprises, a division of Brakes India Pvt. Ltd. The primary objective is to understand how capital investment decisions are evaluated, what techniques are employed, and how effectively these decisions contribute to the financial and strategic goals of the organization. A combination of qualitative and quantitative methods is used to ensure a well-rounded perspective.Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period And Profitability Index (PI) Secondary data, the data that are already available, it refers to the data which have already been collected and analyzed by someone else. The secondary data re collected from company profile and website. Mostly the data used for the project are secondary data. The collected financial data will be analyzed using various financial tools and techniques.

- Net Present Value (NPV): Used to evaluate the profitability of investment projects by calculating the present value of expected future cash flows.
- Internal Rate of Return (IRR): Applied to measure and compare the returns on different projects.
- Payback Period: Used to determine the time required for an investment to recover its initial cost.
- Profitability Index (PI):
- > Employed to rank projects based on cost-benefit efficiency.

### DATA ANALYSIS AND INTERPRETATION

### PAYBACK PERIOD (PBP)

The payback measures the length of time it takes a company to recover in cash its initial investment. This concept can also be explained as the length of time it takes the project to generate cash equal to the investment and pay the company back. It is calculated by dividing the capital investment by the net annual cash flow. If the net annual cash flow is not expected to be the same, the average of the net annual cash flows may be used.

#### Payback Period = <u> Intial Investment</u> Cash flow per Period

Year	2019	2020	2021	2022	2023
Total Sales	1606310970	1952574983	2062496269	2177381956	2371633523
Less: Costs	1555885007	1815614157	1961324252	2068196415	2286017710
EBIT	50425963	136960826	101172022	128327364	85615818
Less: Depreciation	_	967090	_	10393113	12541810
EBT	50425963	135993136	101172022	117934251	73074008
Less: TAX	17100966	100752605	(22354952)	38433857	26851541
PAT (Annual Cash Inflow)	33324997	35241131	123526969	79500394	46222467

## TABLE 1: CALCULATION OF ANNUAL CASH INFLOW

#### Source: Secondary data

Table 1 presents the calculation of annual cash inflows over the five-year period from 2019 to 2023. The total sales figures show a consistent increase year by year, rising from  $\overline{1,606,310,970}$  in 2019 to  $\overline{2,371,633,523}$  in 2023, indicating steady business growth. Correspondingly, costs also increased each year, closely following the trend of sales. The Earnings Before Interest and Taxes (EBIT) show fluctuations during the period, with a notable rise in 2020 to  $\overline{136,960,826}$  compared to  $\overline{50,425,963}$  in 2019, but slightly declining to  $\overline{85,615,818}$  by 2023.

Depreciation expenses were recorded in certain years, notably ₹967,090 in 2020, ₹10,393,113 in 2022, and ₹12,541,810 in 2023, impacting the Earnings Before Tax (EBT) accordingly. The EBT figures reflect the company's pre-tax profitability, showing a peak in 2020 at ₹135,993,136, but declining to ₹73,074,008 in 2023. The tax expense fluctuated significantly, with a negative tax amount (tax benefit) observed in 2021, indicating a possible tax adjustment or carry-forward of losses.

Finally, the Profit After Tax (PAT), which represents the annual cash inflow, showed irregular trends. It increased from ₹33,324,997 in 2019 to a high of ₹123,526,969 in 2021, suggesting strong profitability that year, but subsequently declined to ₹46,222,467 in 2023.



These variations in cash inflow highlight the influence of operational performance, cost control, and taxation policies on the company's financial health over the period.

Year	Initial Investment	Annual Cash Inflow	Payback Period (year)
2019	72368453	33324997	2.17
2020	175080399	35241131	4.97
2021	180236203	123526969	1.46
2022	46246000	79500394	0.58
2023	46246000	46222467	1.00

### **TABLE 2: Payback Period Analysis**

#### Source: Secondary Data

From the above table 2 Reveals that the past 5 years of the 2019-2023 in payback period 2.17 to 1.00. The shorter the payback period, the sooner the company recovers its cash investment. Whether a cash payback period is good or poor depends on the company's criteria for evaluating projects. From the above, it is inferred that the company have its highest payback in 2020 with 4.97 or 5 years. The current year (2023) PBP is found to be 1 year. This shows that the company recovers its investment in 1 year.

### ACCOUNTING RATE OF RETURN (ARR):

ARR method uses accounting information as revealed by financial statements, to measure the profitability of the investment proposals. It is also known as the return on investment. Sometimes it is called the Average rate of return. (ARR)

Accounting Rate of Return (ARR) = 
$$\frac{\frac{PAT}{\text{Original Investment}} * 100}{\frac{PAT}{PAT}}$$

Year	РАТ	Initial Investment	Accounting Rate of Return
2019	33324997	72368453	0.46
2020	35241131	175080399	0.20
2021	123526969	180236203	0.68
2022	79500394	46246000	1.72
2023	46222467	46246000	1.00

 Table -3: ACCOUNTING RATE OF RETURN (ARR)

### Source: Secondary Data

From the above table 3 Reveals that the past 5 years of the Accounting rate of return was 2019 - 0.46, 2020- 0, 2021- 0.68, 2022- 1.72, 2023- 1.00. The minimum ratio was registered as 0.20 in the year 2020 and the maximum ratio was registered as 1.00 in the year 2023. The chart shows that in the year 2020, the company had a lower expected rate of return than the

minimum rate so the investment in the particular project can be reduced. In the year 2022, the project has a higher rate of return than the minimum rate. A higher rate of return indicates that investment made in the particular year has a higher cash inflow in the future. The accounting rate of return for the year 2023 is reduced to 1 year.

### NET PRESENT VALUE (NPV):

Considering the time value of money is important when evaluating projects with different costs, different cash flows, and different service lives. Discounted cash flow techniques, such as the net present value method, consider the timing and amount of cash flows. To use the net present value method, you will need to know the cash inflows, the cash outflows, and the company's required rate of return on its investments. The required rate of return becomes the discount rate used in the net present value calculation.

Present value = Cash flows \* Present value of Re. 1 @ 10% discount using present value table **Net present value** = Present value of all cash inflows – present value of initial investment. **Decision Rule:** 

Accept: NPV > Zero

Reject: NPV< Zero

**Table -4: Net Present Value Analysis** 

Year	РАТ	Discounting present value table (present value of Re. 1@ 10%)	Present Value of Net Cash Flows	Present value of Initial Investment
2019	33324997	0.909	30292422.27	65782923.78
2020	35241131	0.826	29109174.21	144616409.6
2021	123526969	0.751	92768753.72	135357388.5
2022	79500394	0.683	54298769.1	31586018
2023	46222467	0.621	28704152.01	28718766
		Total	235173271.3	406061505.8

#### Source: Secondary data

Net Present Value (20118-12)	(17, 08, 88, 234.5)
Less: Present value of all Initial Investment	406061505.8
Present value of all cash flows	235173271.3

Table 4 clearly indicates that the Net Present Value (NPV) of the project for the five-year period from 2018 to 2022 is  $\gtrless$ 17,08,88,234.50 (negative). A negative NPV is a critical indicator in capital budgeting and financial decision-making, as it suggests that the project's expected cash inflows, when discounted back to their present value, are insufficient to recover the initial investment and the cost of capital. In simple terms, the project is expected to generate a net loss rather than a gain, which raises serious concerns about its financial viability.



The concept of NPV is grounded in the principle of the time value of money, which asserts that a rupee received today is worth more than the same rupee received in the future, due to its earning potential. By discounting future cash flows, NPV allows managers to evaluate whether a project will generate returns greater than the minimum required rate, also known as the discount rate or cost of capital. If the NPV is positive, the project is deemed profitable and value-generating; if it is negative, as in this case, it may not justify the investment.

A negative NPV indicates that the project not only fails to meet the required rate of return but also potentially erodes value for the company. In such a scenario, it is advisable for management to reassess the assumptions underlying the project—such as cost estimates, revenue forecasts, risk factors, and operational efficiencies. If improvements or adjustments cannot bring the NPV into positive territory, the prudent decision would be to modify or abandon the project in favor of alternative investments that offer better returns.

Therefore, this NPV analysis serves as a vital financial tool that not only evaluates project profitability but also enables managers to make informed and strategic investment decisions, ensuring that the organization allocates its resources effectively for long-term growth and sustainability.

### PAYBACK PERIOD ANALYSIS

Year	Cost of the Assets (Rs. In Crores)	Annual Cash Inflow (Rs. In Crores)	Payback Period(year)
2019-2020	3.35	0.756	5.2
2020-2021	3.25	0.759	4.6
2021-2022	2.56	0.885	3.5
2022-2023	2.86	0.751	2.9
2023-2024	2.15	0.625	2.5

 Table -5: PAYBACK PERIOD ANALYSIS

#### Source: Secondary Data

The above table 5 Reveals that the clearly shows that the payback period differs according to the amount invested in particular years. The 'X' axis denotes first 5 years from 2019. The 'Y' axis denotes time period. In the first year 2019, annual cash inflow is 0.756 crores and the payback period 5.2 and the payback period for fifth year 2023 are 2.5. Comparatively payback period for the year 2023 is less.

### **ANALYSIS OF FINDINGS**

Brakes India Ltd. has shown a consistent increase in total sales from 2019 to 2023, with PAT peaking in 2021 at ₹123.5 million. The Payback Period improved significantly post-2021, dropping to below 1 year in 2022 and 2023, indicating quicker recovery of investments. The Accounting Rate of Return (ARR) also reflects strong performance in 2022 with a high of 1.72, showing efficient asset utilization. The Net Present Value (NPV) across the years totals ₹235.17 million, suggesting positive investment viability. Furthermore, cost-efficiency improved, as seen from decreasing asset costs and payback periods year-over-year.



#### RECOMMENDATIONS

#### Managers

Additionally, improving the accuracy of financial forecasting is vital. Managers should regularly update cost and revenue estimates based on current market trends and use techniques like sensitivity analysis to account for uncertainty. Moreover, the decision-making process should not rely solely on financial metrics; non-financial and strategic factors—such as environmental impact, alignment with corporate goals, and operational feasibility—must also be considered.Integrating risk assessment tools such as scenario analysis or break-even analysis can further strengthen investment decisions, especially under uncertain conditions. Managers are also encouraged to implement post-investment reviews to evaluate project performance against initial projections, allowing continuous improvement in budgeting practices.

#### **Policy Makers**

There is also a need for the standardization of capital budgeting frameworks across enterprises to promote best practices and benchmarking. Industry bodies and associations can play a vital role by developing model guidelines and facilitating knowledge-sharing platforms where companies can learn from each other's investment strategies and experiences.

Upskilling and training programs in financial planning and capital budgeting should be expanded, especially targeting mid-sized and emerging enterprises. These initiatives can enhance the financial literacy of decision-makers and help bridge the gap between theory and practical implementation.

#### **Industry Development**

There is also a need for the development of industry-wide financial benchmarking tools and capital investment guidelines. Industry associations can take the lead in creating platforms for collaboration and knowledge-sharing, allowing businesses to learn from best practices and success stories in capital planning. The industry should invest in capacity building and training programs focused on financial management and capital budgeting. Upskilling employees in modern budgeting techniques, risk assessment, and investment evaluation will enhance the decision-making capabilities across enterprises—especially for mid-size and smaller units.

#### **Scholarly Contribution**

Capital budgeting plays a pivotal role in the long-term financial planning of manufacturing firms, especially in capital-intensive sectors like automotive components. This study explores the capital budgeting practices of Brakes India Pvt. Ltd., a leading manufacturer in the Indian auto ancillary sector. The objective is to evaluate the methodologies employed by the company to assess, select, and implement capital investment projects, with a focus on tools such as Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period, and Profitability Index.Preliminary insights indicate that Brakes India adopts a structured and financially rigorous capital budgeting process, emphasizing risk assessment and alignment with strategic goals. However, qualitative interviews with finance and project managers suggest that while NPV and IRR are commonly used, risk-adjusted approaches and post-audit



reviews are areas with potential for enhancement. Furthermore, the study identifies opportunities to integrate digital forecasting tools and sustainability metrics into the capital budgeting framework, thereby aligning financial decision-making with environmental and operational priorities.

#### Scope for further study

This study aims to examine and evaluate the capital budgeting practices of Brakes India Pvt. Ltd., a leading player in the Indian automotive components sector. The scope of the study encompasses a detailed analysis of the tools and techniques used by the company in making long-term investment decisions. Specifically, it investigates the application of methods such as Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period, and the Profitability Index in the evaluation of capital projects. Furthermore, the study explores how Brakes India incorporates risk analysis and strategic alignment in its capital budgeting process, with a focus on how investment decisions contribute to the company's operational efficiency and long-term financial performance. It also includes an overview of post-project evaluation methods, if any, used by the firm to assess the outcomes of past investments.

#### Limitations

While this study provides valuable insights into the capital budgeting practices of Brakes India Pvt. Ltd., it is subject to certain limitations that must be acknowledged. Firstly, the study is primarily based on secondary data sourced from company reports, industry publications, and available financial documents. Due to confidentiality constraints, access to internal decision-making records and detailed financial data was limited, which may restrict the depth of analysis.Secondly, the research focuses exclusively on Brakes India Pvt. Ltd., which may limit the generalizability of the findings across the broader automotive component industry. The unique internal policies, organizational structure, and strategic priorities of the company may not reflect practices in other firms, even within the same sector.

#### CONCLUSION

Capital budgeting is a critical component of financial decision-making, particularly in capitalintensive industries like automotive manufacturing. This study has examined the capital budgeting practices of Brakes India Pvt. Ltd., with a focus on the techniques used for evaluating investment proposals, assessing risk, and aligning financial decisions with longterm strategic goals. Through an analysis of available data and literature, the study finds that Brakes India employs standard financial appraisal methods such as NPV, IRR, and Payback Period to guide its investment decisions.However, there is scope for enhancement in areas such as risk-adjusted decision-making, sustainability integration, and post-project performance evaluation. The findings suggest that while the company's current practices are financially sound, adopting a more comprehensive and technology-driven approach to capital budgeting could improve investment accuracy and strategic alignment.

#### REFERENCES

Alkaraan, F., & Northcott, D. (2006). Capital investment decision-making: A role for strategic management accounting. British Accounting Review, 38(2), 49–73. https://doi.org/10.1016/j.bar.2005.11.001

Alles, L., Jayathilaka, R., Kumari, N., Malalathunga, T., Obeyesekera, H., & Sharmila, S. (2021). An investigation of the usage of capital budgeting techniques by small and medium enterprises. Quality & Quantity, 55(3), 993–1006. https://doi.org/10.1007/s11135-020-01036-z

Andor, G., Mohanty, S. K., & Toth, T. (2015). Capital budgeting practices: A survey of Central and Eastern European firms. Emerging Markets Review, 23, 148–172. https://doi.org/10.1016/j.ememar.2015.04.002

Baker, H. K., Kumar, S., & Pandey, N. (2020). A bibliometric analysis of managerial finance: A retrospective. Managerial Finance, 46(11), 1495–1517. <u>https://doi.org/10.1108/MF-06-2019-0277</u>

Bennouna, K., Meredith, G. G., & Marchant, T. (2010). Improved capital budgeting decision making: Evidence from Canada. Management Decision, 48(2), 225–247. https://doi.org/10.1108/00251741011022590

Brounen, D., De Jong, A., & Koedijk, K. (2004). Corporate finance in Europe: Confronting theory with practice. Financial Management, 33(4), 71–101. https://www.jstor.org/stable/3666349

Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. Journal of Financial Economics, 60(2–3), 187–243. <u>https://doi.org/10.1016/S0304-405X(01)00044-7</u>

Pike, R. H. (1984). Sophisticated capital budgeting systems and their association with corporate performance. Managerial and Decision Economics, 5(2), 91–97. https://doi.org/10.1002/mde.4090050207

Pike, R. H. (1988). An empirical study of the adoption of sophisticated capital budgeting practices and decision-making effectiveness. Accounting and Business Research, 18(72), 341–351. <u>https://doi.org/10.1080/00014788.1988.9729381</u>

Sharma, Pragya. (2023). Analyzing How Rigorous Financial Analysis Informs Strategic Decisions and Contributes to Corporate Growth. Nanotechnology Perceptions. 20. 219-229. 10.62441/nano ntp.v20i1.5164.

Slade, M. E. (2001). Valuing managerial flexibility: An application of real-option theory to mining investments. Journal of Environmental Economics and Management, 41(2), 193–233. https://doi.org/10.1006/jeem.2000.1139

Verbeeten, F. H. M. (2006). Do organizations adopt sophisticated capital budgeting practices to deal with uncertainty in the investment decision? A research note. Management Accounting Research, 17(1), 106 120. https://doi.org/10.1016/j.mar.2005.07.002.