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A STUDY ON CAPITAL BUDGETING WITH REFERENCE TO [ZTT INDIAN PVT LTD], SRICITY.

*M.Guravaiah[1], and SK. Kadhar Basha [2]
Department of management studies, Narayana Engineering College (Autonomous), Gudur.

ABSTRACT

This project aims to analysis the capital budgeting practices of ZTT India Pvt. Ltd., a leading manufacturer in the telecom and power transmission sector. Capital budgeting plays a crucial role in evaluating long-term investment decisions that significantly impact the company's financial health and strategic growth. The study explores various techniques such as Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period, and Profitability Index, which are employed by ZTT India to assess investment opportunities. By reviewing recent capital projects and financial data, the project evaluates the effectiveness and efficiency of the company's decision-making processes. The findings provide insights into how ZTT India prioritizes and allocates resources to maximize returns and manage risks, contributing to its sustained growth and competitive advantage in the industry.

Keywords: Capital Expenditure, net present value, payback period, cost of capital.

Introduction

ZTT India Pvt. Ltd., a subsidiary of ZTT China, was established in 2012 and operates in Sri City, Andhra Pradesh. The company specializes in manufacturing telecom and power cables, including OPGW, OPPC, and OFC. It also provides EPC services for power transmission projects. In capital budgeting, ZTT focuses on evaluating long-term investments to expand its manufacturing capacity and technology.

The significance of ZTT India Pvt. Ltd. in capital budgeting lies in its strategic investment decisions to expand production, adopt advanced technologies, and enhance infrastructure. These decisions ensure optimal allocation of resources, long-term profitability, and support for large-scale telecom and power transmission projects. Effective capital budgeting helps ZTT India align with market demands and national initiatives like "Make in India," strengthening its competitive position in the industry.

The industry in which ZTT India Pvt. Ltd. operates—telecom and power infrastructure—holds significant importance for both the economy and society. Through capital budgeting, ZTT India invests in modernizing infrastructure, expanding manufacturing capabilities, and supporting large-scale energy and communication projects. These investments contribute to economic growth by generating employment, enhancing connectivity, and supporting sustainable energy solutions. Socially, the company's projects improve access to communication and power, which are vital for education, healthcare, and overall quality of life, especially in rural and developing regions.

Capital budgeting is the process a business undertakes to evaluate potential major projects or investments. Construction of a new plant or a big investment in an outside venture are examples of projects that would require capital budgeting before they are approved or rejected. Capital

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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 in corporate finance, is to increase the value of the firm to the shareholders. Capital budgeting is typically considered a non-core business activity as it is not part of the revenue model or models of most types of firms, or even a part of daily operations. It holds a strategic financial function within a business. One example of a firm type where capital budgeting is plausibly a part of the core business activities is with investment banks, as their revenue model or models rely on financial strategy to a considerable degree.

REVIEW OF LITERATURE

Alkaraan & Northcott (2006) This 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 behavior.

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Sharma (2023) Sharma analyzes 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 decision-making 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 behavior.It 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 analyzes 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.

METHODOLOGY

A key research gap at ZTT India Pvt. Ltd. in capital budgeting is the integration of advanced data analytics and AI-based forecasting for more precise financial planning and risk assessment. Additionally, there is limited exploration of how sustainability metrics are incorporated into their capital budgeting decisions, particularly in green energy projects. The role of corporate

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governance in shaping capital budgeting practices, especially in multinational subsidiaries like ZTT India, also remains under-researched. These gaps present opportunities for deeper insights into improving decision-making processes at ZTT India.

The study at ZTT India Pvt. Ltd. is essential to enhance capital budgeting practices, particularly with the integration of advanced data analytics and sustainability metrics. As the company expands in the telecom and power sectors, more sophisticated investment techniques are needed to optimize resource allocation and manage risks effectively. This research will help improve decision-making processes, ensuring better financial planning and strategic growth.

The scope of the study at ZTT India Pvt. Ltd. in capital budgeting will focus on evaluating current capital budgeting practices and identifying areas for improvement. It will explore the integration of advanced financial models like AI-based forecasting and data analytics in investment decisions. The study will also assess the role of sustainability metrics in capital budgeting, particularly in green energy and telecom projects. Additionally, it will analyze how corporate governance and global practices influence the company's budgeting strategies, aiming to provide actionable recommendations for enhancing financial decision-making and optimizing resource allocation.

OBJECTIVES OF THE STUDY

- To study the various capital budgeting methods are being implemented in the organization.
- To evaluate the capital budgeting methods are being implemented in the organization.
- To suggest the better financial performance in the organizations.

The research design for this study will follow a descriptive and analytical approach. It will involve both primary and secondary data collection. Primary data will be gathered through structured interviews and questionnaires with finance managers and executives at ZTT India Pvt. Ltd., focusing on their capital budgeting techniques and decision-making processes. Secondary data will include company reports, financial statements, and industry research. The study will use quantitative tools like NPV, IRR, and sensitivity analysis to evaluate project selection methods, while also incorporating qualitative insights on strategic and sustainability considerations.

Thus, project is based on secondary information collected through six years annual report of the company, supported by various books and internet sites. The data collection was aimed at study of working capital management of the company.

As there are ratios to be calculated for knowing the capital Budgeting in the company

- Net Present Value
- Payback Period
- Internal Rate of Interest (IRR)
- Profitability Index (PI)

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

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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.

$$\text{Payback Period} = \frac{\text{Intial Investment}}{\text{Cash flow per Period}}$$

TABLE 1 CALCULATION OF ANNUAL CASH INFLOW

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 or other Exceptional items	-	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

Source: Secondary data

TABLE 2 Payback Period Analysis

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

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2023	**46246000**	**46222467**	**1.00**

Source: Secondary data

Table 2 Reveals that the past 5 years of the 2019-2023 in payback period 2.17 to 1.00

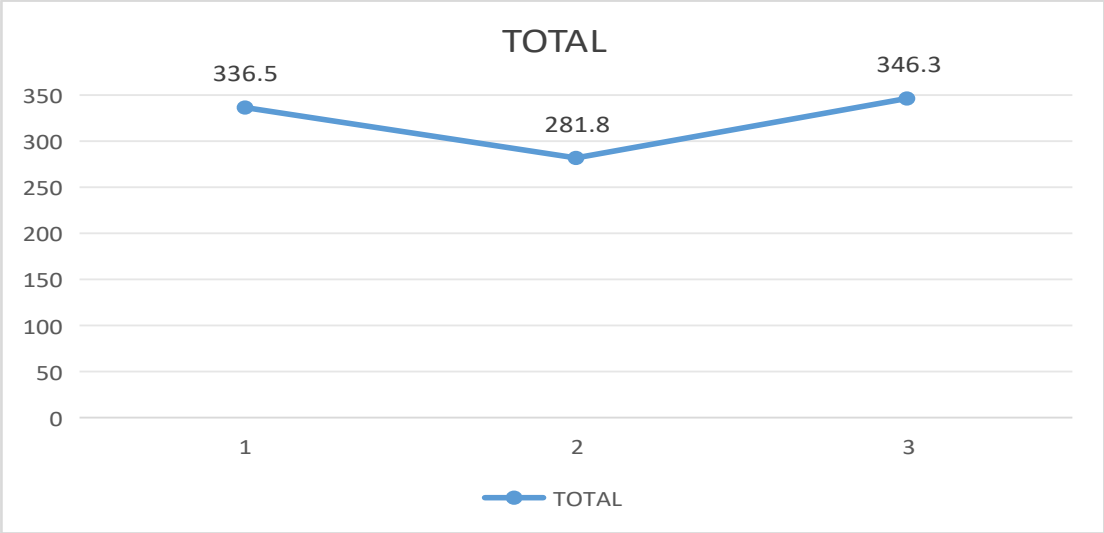

Figure 2 Payback Period Analysis

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) = $\frac{\text{PAT}}{\text{Original Investment}} * 100$

Table 3 ACCOUNTING RATE OF RETURN (ARR)

Year	PAT	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**

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2023	**46222467**	**46246000**	**1.00**

Source : Secondary data

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.

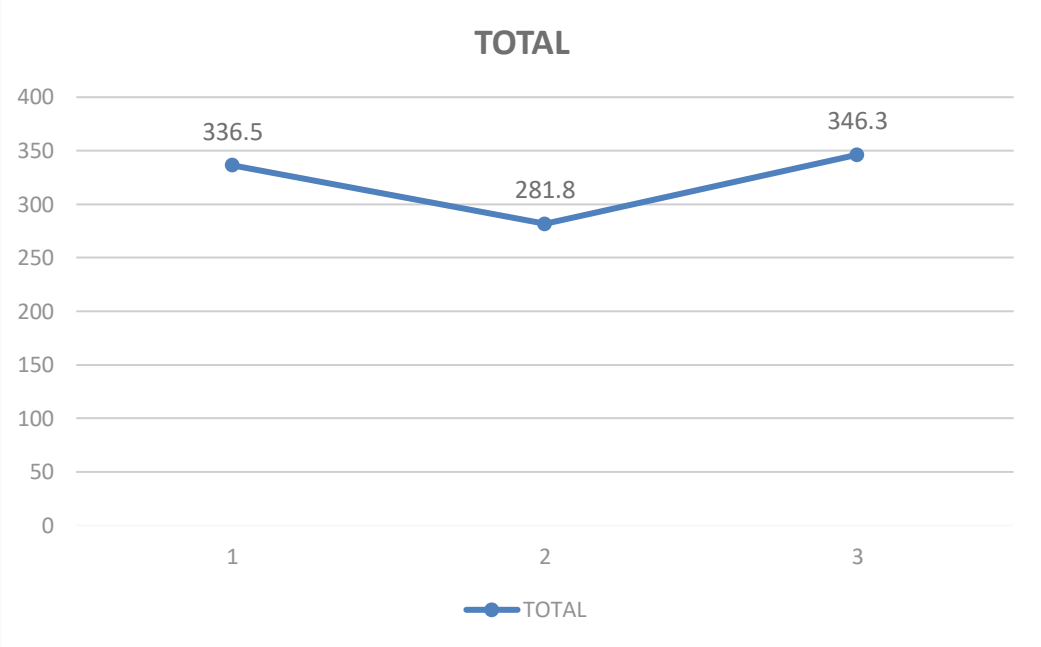

Figure 3 Account rate of return

Figure 3 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.

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Formula

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	PAT	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

CALCULATION

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

Table 4 Reveals that the clearly indicates that the Net Present Value for the five years from 2018 to 2022 is (17, 08, 88,234.5) A negative NPV indicates that the project will probably be unprofitable and therefore should be adjusted, if not abandoned altogether. NPV enables a manager to consider the time value of money it will invest. This concept holds that the value of money increases with time because it can always earn interest in a savings account. Therefore, any other investment of that money must be weighed against how the funds would perform if simply deposited and saved.

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PAYBACK PERIOD ANALYSIS

Table 5 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

Source: Secondary data

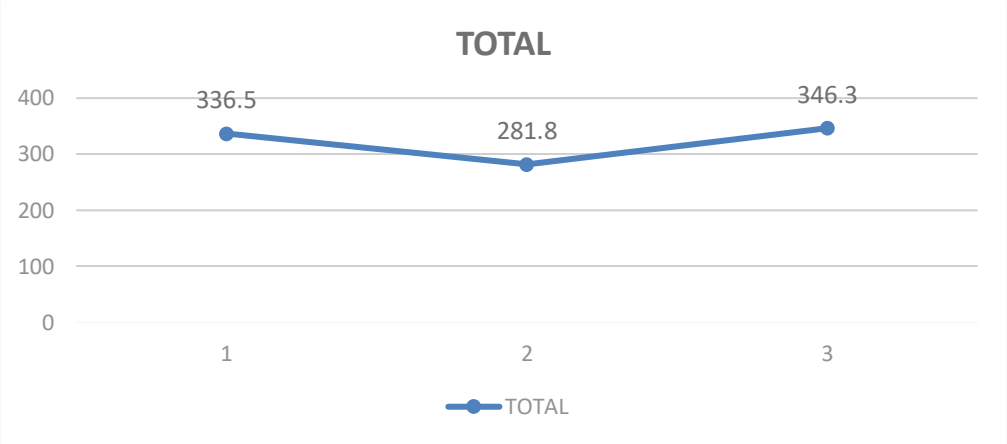

Figure 5 PAYBACK PERIOD ANALYSIS

Figure 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

The financial feasibility of the investment project undertaken by ZTT Indian Pvt Ltd, SriCity has been evaluated through key capital budgeting techniques, namely Net Present Value (NPV) and Internal Rate of Return (IRR). The results of the analysis reveal that the project is financially viable at a discount rate of 10%, as indicated by a positive NPV of ₹3.631 lakhs. This suggests that the project's expected returns exceed the cost of capital at this rate, making it a potentially profitable investment.

However, when the discount rate is increased to 30%, the NPV becomes negative (–₹1.575 lakhs), signifying that the project would not be financially justified under higher required return expectations. This variation highlights the sensitivity of the project to the discount rate and underlines the importance of selecting an appropriate rate that reflects the company's cost of capital.

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The Internal Rate of Return (IRR) for the project lies between 10% and 30%, marking the point at which the project's NPV would be zero. If the company's actual cost of capital is lower than the IRR, the investment would generate a net gain, and vice versa. This makes the IRR a crucial decision-making tool for evaluating the project's potential.

Additionally, the analysis of cash flows indicates that the highest Cash Flow After Tax (CFAT), amounting to ₹0.894 lakhs, is projected to occur in the year 2023. This suggests that the project's returns are back-loaded, with significant benefits realized in the later stages. Due to the impact of discounting, earlier cash flows contribute more significantly to the project's value than those received later. Therefore, the timing of cash inflows plays a vital role in determining the overall profitability of the investment.

RECOMMENDATIONS

Managers

Managers at ZTT India Pvt Ltd should focus on capital projects that align with the company's strategic goals and offer sustainable long-term benefits.They must apply financial evaluation tools like Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period to assess project viability.Risk analysis and sensitivity testing should be incorporated to handle uncertainties effectively.accurate forecasting of cash flows and costs is crucial for informed decision-making.Regular post-implementation reviews can help track performance and improve future budgeting.Involving cross-functional teams ensures a holistic view and better allocation of capital resources.tools and modern ERP systems can enhance real-time tracking of working capital components, leading to better decision-making and improved liquidity.

Policy Makers

Policy makers at ZTT India Pvt Ltd should establish clear guidelines and frameworks for evaluating capital investment proposals. They must ensure policies support strategic priorities while maintaining financial discipline. Standardizing evaluation methods like NPV, IRR, and risk assessment promotes consistency and objectivity. Encouraging transparency in assumptions and data enhances accountability in decision-making.

Policies should mandate periodic reviews of ongoing projects to ensure value realization. Finally, fostering a culture of long-term planning and innovation can drive sustainable growth.

Industry development

To foster industry development, ZTT India Pvt Ltd should focus on adopting best practices from global capital budgeting standards. Encouraging innovation in project evaluation tools can lead to more accurate forecasting and better decision-making.

Collaborating with industry leaders and experts can bring new insights into risk management and project feasibility. Promoting investment in green technologies and sustainable infrastructure should be integrated into capital budgeting processes.

Investing in employee training on advanced financial modeling techniques can build in-house expertise. Finally, advocating for supportive government policies anincentives for capital investments can help accelerate industry growth.

Scholarly contribution

ZTT India Pvt Ltd should collaborate with academic institutions to conduct research on advanced capital budgeting techniques and their practical applications. Encouraging employees to publish

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case studies or papers on the company's capital budgeting practices can enhance industry knowledge. Promoting knowledge sharing through internal seminars or webinars can help bridge the gap between theory and practice.

Engaging in research projects on emerging trends like digital transformation or sustainability in capital budgeting can position the company as a thought leader.

Supporting employees to pursue further education in finance or strategic management can deepen the company's intellectual capital. Finally, adopting a culture of continuous learning and innovation can ensure the company remains at the forefront of capital budgeting practices.

Scope for further study

here is ample scope for further study in the capital budgeting practices of ZTT India Pvt Ltd. Future research can explore the effectiveness of current evaluation techniques such as NPV and IRR, and compare them with advanced tools like real options and AI-driven forecasting models. Investigating the integration of sustainability and ESG considerations into investment decisions can provide new strategic directions. Additionally, analyzing post-implementation reviews and their influence on project outcomes may reveal areas for process improvement. Studies focusing on the impact of macroeconomic variables on capital investment decisions can also add valuable insights. Such scholarly efforts can help refine the company's capital budgeting strategies and contribute to industry-wide knowledge.

Limitations

ZTT India Pvt Ltd faces several limitations in its capital budgeting process. One key challenge is the reliance on traditional evaluation methods, which may not fully capture the complexities of modern investment environments. Limited availability of accurate future cash flow data can affect the reliability of projections. Additionally, external factors such as market volatility, policy changes, and global supply chain disruptions can impact investment outcomes. There may also be a lack of integration between financial and strategic planning, leading to suboptimal investment choices. Finally, time constraints and limited resources may hinder thorough analysis and post-project evaluations.

CONCLUSION

In conclusion, effective capital budgeting is essential for ZTT India Pvt Ltd to ensure sustainable growth and competitive advantage in the telecom and infrastructure industry. By adopting modern evaluation techniques, integrating strategic and financial planning, and addressing existing limitations, the company can make more informed and value-driven investment decisions. Continuous improvement through research, employee training, and post-project analysis will enhance the overall efficiency of capital allocation. With a forward-looking approach and strong governance, ZTT India Pvt Ltd can strengthen its capital budgeting practices to support long-term organizational success**.**

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