



AN EMPIRICAL ANALYSIS OF THE FINANCIAL PERFORMANCE OF THE INDIAN RAILWAYS SECTOR IN INDIA

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ABSTRACT

Indian Railways plays a crucial role in India's economic growth by providing affordable transportation services and supporting trade, commerce, and regional connectivity. The present study examines the financial performance of Indian Railways using key financial indicators such as Profit After Tax (PAT), Net Sales, Net Worth, Current Assets, and Capital Employed over the period 2021–2025. The research is based on secondary data collected from reliable financial sources and employs trend analysis, descriptive statistics, correlation analysis, and t-test techniques to evaluate financial efficiency and performance.

The findings reveal significant growth in sales, current assets, net worth, and capital employed during the study period. Although profitability experienced fluctuations, the organization demonstrated a strong recovery after initial losses and recorded positive profits in the later years. Correlation analysis indicates that profitability is strongly associated with sales and current assets, while the relationship between profitability and net worth or capital employed is comparatively weak. The t-test results confirm statistically significant differences between PAT and other financial variables, suggesting that growth in assets and capital has not been fully translated into proportional profit generation. The study concludes that Indian Railways has strengthened its financial foundation through increased investment, asset expansion, and revenue growth. However, greater emphasis on operational efficiency, cost control, and effective utilization of resources is necessary to enhance profitability and ensure

long-term financial sustainability.

Key Words – Indian Railways, Financial Performance, Profitability, Net Worth, Capital Employed, Correlation Analysis, Financial Sustainability.

INTRODUCTION

Indian Railways is one of the largest railway networks in the world and serves as a vital component of India's transportation infrastructure. It plays a significant role in facilitating passenger mobility, freight transportation, industrial development, and regional economic integration. As a government-owned public utility, Indian Railways contributes substantially to national income while simultaneously fulfilling social and developmental objectives.

In recent years, Indian Railways has undergone considerable transformation through modernization initiatives, infrastructure development projects, technological advancements, and policy reforms. Large-scale investments in railway tracks, electrification, station redevelopment, high-speed rail corridors, and digital technologies have aimed to improve operational efficiency and service quality. These developments have also increased the importance of evaluating the financial performance of the sector.

Financial performance analysis helps assess the ability of an organization to generate revenue, manage expenses, utilize assets efficiently, and maintain financial stability. For a capital-intensive sector such as Indian Railways, understanding the relationship between profitability, assets, sales, and capital investment is essential for sustainable growth. Despite its strategic importance, Indian Railways faces several financial challenges, including rising operational costs, infrastructure maintenance requirements, and increasing capital expenditure.

Therefore, this study seeks to analyze the financial performance of Indian Railways through various statistical and financial tools. The analysis provides valuable insights into the financial health, efficiency, and sustainability of the organization and helps identify areas requiring improvement for future growth and development.

LITERATURE REVIEW

- ❖ **Khan, Ali Khan and Khairoowala (2015)**, examined the financial performance of Indian Railways by analyzing the relationship between earnings and expenditure during the period 2000–01 to 2011–12. The study used operating ratio and net profit ratio as major indicators of financial performance. The findings revealed that freight earnings remained the primary source of revenue, while rising working expenses significantly influenced financial outcomes. The authors concluded that effective expenditure management is essential for maintaining financial sustainability.
- ❖ **Gupta and Sathye (2008)**, investigated the financial turnaround of Indian Railways during the mid-2000s. The study identified managerial reforms, improved freight operations, and favorable economic conditions as major contributors to enhanced financial performance. The research emphasized that organizational restructuring and strategic leadership played a crucial role in transforming Indian Railways from a financially stressed organization into a profitable public enterprise.
- ❖ **Kargeti (2020)**, analyzed the financial performance of Indian Railways using secondary data from annual reports covering 2013–14 to 2017–18. The study employed growth rate



analysis, operating ratio, and net profit ratio to assess performance. Results indicated improvements in investment, infrastructure, and revenue generation. However, concerns remained regarding expenditure growth and the long-term sustainability of financial resources.

- ❖ **Roy and Kulshrestha (2021)**, assessed the operational and financial efficiency of Indian Railways using Data Envelopment Analysis (DEA). The study found that several railway divisions suffered from inefficiencies due to poor resource utilization, increasing expenditure, and governance-related issues. The authors suggested reforms in management practices and financial planning to improve operational surplus and overall financial health.
- ❖ **Singh, Roy and Singh (2021)**, The study focused on expense-based performance analysis and resource rationalization in Indian Railways. Using DEA and Malmquist Productivity Index techniques, the researchers evaluated the efficiency of different railway zones. The findings highlighted those operating expenses and working costs significantly affect financial performance. The study recommended technological innovation and cost optimization measures to improve financial efficiency.
- ❖ **Kumar (2025)**, critically examined the impact of merging the Railway Budget with the General Budget of India. The study observed that the reform reduced the financial burden associated with dividend payments and enabled greater focus on infrastructure financing. The research concluded that budgetary integration has the potential to strengthen the financial position of Indian Railways, provided that investment and expenditure are managed efficiently.

RATIONALE OF THE STUDY

The Indian Railways is one of the largest transportation networks in the world and plays a significant role in India's economic development. Several studies have examined its operational efficiency, service quality, infrastructure development, and policy reforms. However, limited research has focused on a comprehensive empirical assessment of the financial performance of the Indian Railways over an extended period. Existing studies often concentrate on specific financial indicators, budgetary allocations, or isolated projects rather than evaluating overall financial health through multiple performance measures. Furthermore, the financial implications of modernization initiatives, increasing capital expenditure, public investment, technological advancements, and changing revenue structures have not been adequately examined in a unified framework. There is also a lack of recent studies that assess the relationship between revenue generation, operating expenditure, profitability, and financial sustainability in the post-reform period. Therefore, a comprehensive empirical investigation is required to evaluate the financial performance of the Indian Railways and identify the factors influencing its financial stability and growth.

RESEARCH OBJECTIVES

- To analyze the financial performance of the Indian Railways sector in India.
- To evaluate the financial efficiency of the Indian Railways using selected financial indicators.
- To analyze the relationship between revenue generation and operating expenditure in the Indian Railways sector.

- To identify the major challenges affecting the financial sustainability of the Indian Railways.

RESEARCH METHODOLOGY

The study adopts a descriptive and analytical research design to evaluate the financial performance of the Indian Railways sector. The research is based entirely on secondary data. Data will be collected from capital line data base. The study may cover a period of 10 years (2015–16 to 2024–25), subject to data availability. Variables used in the study are Total Revenue, Freight Revenue, Passenger Revenue, Operating Expenditure, Net Revenue, Capital Expenditure, Operating Ratio, Gross Traffic Receipts. Tools and Techniques used in the study are Descriptive Statistics (Mean, Standard Deviation, Growth Rate), Correlation Analysis, Regression Analysis.

ANALYSIS AND INTERPRETATION

I. TREND ANALYSIS

Trend analysis is a statistical technique used to evaluate the direction and pattern of changes in financial variables over a period of time. It helps identify whether a company's performance is improving, declining, or remaining stable. In financial performance studies, trend analysis is commonly applied to variables such as net worth, sales, profitability, assets, and liabilities.

Trend Analysis of Net Worth

The net worth of the company showed significant fluctuations during the study period. The company reported a negative net worth in 2021 and 2022, indicating financial stress. A substantial improvement was observed in 2023 when net worth turned positive and increased considerably. Although net worth remained positive in 2024 and 2025, a declining trend was noticed after 2023. This suggests that the company strengthened its financial position compared to the initial years but experienced some reduction in shareholders' funds in the later years.

Table -1 Trend Analysis of Net Worth

Year	Net Worth	Trend Percentage
2021	-2520.45	100.00
2022	-41.53	1.65
2023	6667.38	-264.53
2024	5251.61	-208.36
2025	3663.36	-145.35

Source- Author Compilation

Trend Analysis of Net Sales

Net sales increased substantially from 2021 to 2024, reflecting strong revenue growth and improved operational performance. The highest sales were recorded in 2024. However, sales declined in 2025 compared to the previous two years. Despite the decline, sales remained significantly higher than the base year, indicating overall business expansion during the study period.

Table -2 Trend Analysis of Net Sales

Year	Net Sales	Trend Percentage
2021	1577.96	100.00
2022	3320.26	210.42
2023	8688.78	550.63
2024	8721.84	552.72
2025	4674.77	296.25

Source- Author Compilation

Trend Analysis of PAT

The company incurred losses in 2021 and 2022. A remarkable turnaround occurred in 2023 when the company generated positive profits. Profitability further improved in 2024 before experiencing a slight decline in 2025. Overall, the trend indicates a significant recovery in earnings and enhanced financial performance.

Table -3 Trend Analysis of PAT

Year	PAT	Trend Percentage
2021	-377.69	100.00
2022	-481.28	127.43
2023	949.22	-251.33
2024	1425.47	-377.42
2025	1314.90	-348.15

Source- Author Compilation

Trend Analysis of Capital Employed

The trend analysis of Capital Employed reveals a substantial increase from the base year 2021 to 2023, reaching a peak trend value of 299.50%. This indicates significant growth in long-term funds invested in business operations. However, the trend declined to 202.54% in 2024 and further to 76.51% in 2025, suggesting a reduction in capital investment and long-term financing during the later years of the study period.

Table -4 Trend Analysis of Capital Employed

Year	Capital Employed	Trend Percentage
2021	5247.08	100.00
2022	12849.76	244.90
2023	15715.00	299.50
2024	10627.18	202.54
2025	4014.60	76.51

Source- Author Compilation

Trend Analysis of Current Assets

The trend analysis of Current Assets indicates a consistent increase throughout the study period. Current assets rose from the base value of 100% in 2021 to 597.54% in 2023, reflecting substantial growth in short-term resources. Although a slight decline was observed in 2024 and 2025, the trend percentages remained above 500%, indicating that the company maintained a strong liquidity position compared to the base year.

Table -5 Trend Analysis of Current Assets

Year	Current Assets	Trend Percentage
2021	1092.74	100.00
2022	1898.60	173.75
2023	6529.68	597.54
2024	6373.55	583.25
2025	5915.48	541.33

Source- Author Compilation

DESCRIPTIVE STATISTICS

The descriptive statistics provide an overview of the financial performance and position of the company during the five-year study period based on Profit After Tax (PAT), Net Sales, Net Worth, Current Assets, and Capital Employed. The average Profit After Tax (PAT) stood at ₹566.12 crore, indicating that the company generated a moderate level of profitability over the study period. However, the high standard deviation of ₹926.52 crore suggests substantial fluctuations in profits from year to year. The negative minimum value of ₹481.28 crore indicates that the company experienced a loss in at least one year, while the maximum PAT of ₹1,425.47 crore reflects strong profitability during its best-performing year. The median PAT of ₹949.22 crore being higher than the mean suggests that lower profit values and losses pulled down the average.

The company recorded an average Net Sales of ₹5,396.72 crore. The standard deviation of ₹3,213.64 crore indicates considerable variation in sales performance across the years. The sales ranged from ₹1,577.96 crore to ₹8,721.84 crore, demonstrating significant growth and expansion during the study period. The very small positive skewness value (0.09) indicates that sales were relatively symmetrically distributed around the mean.

Table -6 Descriptive Statistics

	<i>PAT</i>	<i>Net Sales</i>	<i>Net Worth</i>	<i>Current Assets</i>	<i>Capital Employed</i>
Mean	566.12	5396.72	9690.73	4362.01	9690.72
Standard Error	414.35	1437.18	2226.13	1181.42	2226.13
Median	949.22	4674.77	10627.19	5915.48	10627.18
Standard Deviation	926.52	3213.64	4977.77	2641.73	4977.77
Sample Variance	858435	10327476.	24778199.30	6978717.65	24778178.82
Kurtosis	-3.12	-2.48	-2.21	-2.99	-2.21
Skewness	-0.46	0.09	-0.07	-0.63	-0.07
Range	1906.75	7143.88	11700.40	5436.94	11700.40
Minimum	-481.28	1577.96	4014.60	1092.74	4014.60
Maximum	1425.47	8721.84	15715.00	6529.68	15715.00
Sum	2830.62	26983.61	48453.64	21810.05	48453.62
Count	5	5	5	5	5

Source- Author Compilation

The average Net Worth amounted to ₹9,690.73 crore, reflecting a strong equity base and financial stability. The high standard deviation of ₹4,977.77 crore indicates substantial growth in shareholders' funds over time. Net Worth increased from a minimum of ₹4,014.60

crore to a maximum of ₹15,715.00 crore, showing considerable strengthening of the company's financial position. The skewness value of -0.07 suggests an almost symmetrical distribution of net worth figures.

The mean value of Current Assets was ₹4,362.01 crore, indicating a reasonable level of short-term resources available to meet operational requirements and liabilities. The standard deviation of ₹2,641.73 crore signifies notable fluctuations in current asset holdings over the years. Current Assets ranged between ₹1,092.74 crore and ₹6,529.68 crore. The negative skewness value (-0.63) suggests that higher current asset values were observed in most years, with a few lower values affecting the distribution.

Similarly, Capital Employed recorded an average value of ₹9,690.72 crore, with a standard deviation of ₹4,977.77 crore. The wide range between the minimum value of ₹4,014.60 crore and the maximum value of ₹15,715.00 crore indicates significant expansion in the company's long-term investment base. This growth reflects increased investment in assets and business operations during the study period.

The kurtosis values for all variables are negative, ranging from -2.21 to -3.12, indicating a platykurtic distribution. This suggests that the data are relatively flatter than a normal distribution and contain fewer extreme observations. The skewness values are also close to zero for most variables, implying that the financial indicators are fairly balanced and do not exhibit severe asymmetry.

Overall, the descriptive statistics reveal that the company experienced substantial growth in sales, net worth, current assets, and capital employed during the study period. Although profitability showed significant fluctuations, including a loss in one year, the increasing levels of net worth and capital employed indicate a strengthening financial foundation and long-term growth potential. The relatively balanced distribution of the financial variables further suggests stable financial performance despite year-to-year variations.

CORRELATION ANALYSIS

Table 7 presents the correlation coefficients among Profit After Tax (PAT), Net Sales, Net Worth, Current Assets, and Capital Employed. The analysis provides insights into the degree and direction of relationships among the selected financial variables. The correlation between PAT and Net Sales is 0.79, indicating a strong positive relationship. This suggests that an increase in sales is generally associated with higher profitability. The result reflects the importance of revenue generation in enhancing the company's earnings performance. A very strong positive correlation of 0.96 exists between PAT and Current Assets. This indicates that efficient management and growth of current assets are closely linked with improvements in profitability. It implies that the company's liquidity position and short-term asset base contribute significantly to generating profits.

Table -7 Correlation Analysis

	<i>PAT</i>	<i>Net Sales</i>	<i>Net Worth</i>	<i>Current Assets</i>	<i>Capital Employed</i>
<i>PAT</i>	1				
<i>Net Sales</i>	0.79	1			
<i>Net Worth</i>	-0.01	0.59	1		
<i>Current Assets</i>	0.96	0.89	0.24	1	
<i>Capital Employed</i>	-0.01	0.59	1	0.24	1

Source- Author Compilation

The correlation between PAT and Net Worth is -0.01 , which indicates an almost negligible negative relationship. This suggests that changes in shareholders' equity have little direct influence on profitability during the study period. Similarly, PAT and Capital Employed also show a correlation of -0.01 , revealing virtually no relationship between the amount of capital invested and profit generation. The relationship between Net Sales and Net Worth is 0.59 , reflecting a moderate positive association. This indicates that higher sales levels tend to contribute to growth in shareholders' funds over time. The same coefficient (0.59) is observed between Net Sales and Capital Employed, suggesting that increased sales are accompanied by greater utilization of capital resources.

A strong positive correlation of 0.89 exists between Net Sales and Current Assets, implying that sales growth is supported by higher levels of inventories, receivables, and other current assets. This relationship highlights the operational dependence of sales activities on working capital management. The correlation between Net Worth and Current Assets is 0.24 , indicating a weak positive relationship. This suggests that increases in equity are only marginally associated with growth in current assets. Similarly, the correlation between Current Assets and Capital Employed is 0.24 , showing a weak positive connection.

Notably, Net Worth and Capital Employed exhibit a perfect positive correlation of 1.00 . This indicates that both variables move together in exactly the same direction throughout the study period. Such a result may arise because capital employed is substantially influenced by net worth, leading to identical movement patterns.

t-TEST

The independent sample t-test was conducted to examine whether there is a statistically significant difference between Profit After Tax (PAT) and selected financial performance variables, namely Net Sales, Net Worth, Current Assets, and Capital Employed. The analysis was carried out using a 5-year dataset under the assumption of equal variances.

PAT and Net Sales

The mean value of PAT was 566.12 , whereas the mean Net Sales stood at $5,396.72$. The calculated t-statistic was -3.23 , which is greater in absolute value than the critical t-value of 2.31 at the 5 percent significance level. Furthermore, the two-tailed p-value of 0.01 is lower than the threshold value of 0.05 . This indicates that a statistically significant difference exists between PAT and Net Sales during the study period. The result suggests that changes in sales volume were not directly reflected in profit levels, indicating the influence of operational costs and other profitability factors.

Table -8 t-Test: Two-Sample Assuming Equal Variances

	<i>PAT</i>	<i>Net Sales</i>	<i>PAT</i>	<i>Net Worth</i>	<i>PAT</i>	<i>Current Assets</i>	<i>PAT</i>	<i>Capital Employed</i>
Mean	566.12	5396.72	566.12	9690.73	566.12	4362.01	566.12	9690.72
Variance	858	10327	8584	24778	858	69787	8584	247781
Observations	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Pooled Variance	55929		12818		39185		128183	
Hypothesized Mean Differ	0.00		0.00		0.00		0.00	
Df	8.00		8.00		8.00		8.00	
t Stat	-3.23		-4.03		-3.03		-4.03	
P(T<=t) one-tail	0.01		0.00		0.01		0.00	
t Critical one-tail	1.86		1.86		1.86		1.86	
P(T<=t) two-tail	0.01		0.00		0.02		0.00	
t Critical two-tail	2.31		2.31		2.31		2.31	



Source- Author Compilation

PAT and Net Worth

The comparison between PAT and Net Worth revealed a mean value of 9,690.73 for Net Worth against 566.12 for PAT. The calculated t-statistic of -4.03 exceeded the critical value of 2.31, while the two-tailed p-value was less than 0.01. Since the p-value is significantly below 0.05, the null hypothesis of no difference is rejected. This finding confirms a substantial statistical difference between profitability and shareholders' funds, highlighting that growth in net worth was considerably higher than the growth in profits during the period under study.

PAT and Current Assets

The average Current Assets amounted to 4,362.01, compared with an average PAT of 566.12. The calculated t-statistic was -3.03, and the corresponding two-tailed p-value was 0.02. As the p-value is below the 5 percent level of significance, the difference between PAT and Current Assets is statistically significant. This result implies that the company's investment in short-term assets was considerably larger than its profit generation capacity, reflecting the importance of working capital management in sustaining business operations.

PAT and Capital Employed

The mean Capital Employed was 9,690.72, substantially higher than the mean PAT of 566.12. The calculated t-statistic of -4.03 exceeded the critical value, and the two-tailed p-value was less than 0.01. Therefore, the null hypothesis is rejected, indicating a significant difference between PAT and Capital Employed. The result suggests that the company maintained a large capital base relative to its profits, emphasizing the need to improve the efficiency of capital utilization to enhance profitability.

The t-test results reveal statistically significant differences between Profit After Tax and all selected financial variables, namely Net Sales, Net Worth, Current Assets, and Capital Employed, as all p-values are below the 0.05 significance level. These findings indicate that while the company possesses substantial sales revenue, asset holdings, shareholder funds, and capital investment, the level of profit generated remains comparatively lower. This suggests that management should focus on improving operational efficiency, cost control, asset utilization, and capital productivity to achieve stronger profitability and overall financial performance.

FINDINGS

Based on the objectives and the analysis carried out on the financial performance of the Indian Railways sector, the following major findings were derived:

To Analyze the Financial Performance of the Indian Railways Sector in India

- The financial performance of Indian Railways showed considerable improvement during the study period, particularly after 2022, as reflected in the growth of net sales, profitability, net worth, and capital employed.
- Net Sales increased significantly from ₹1,577.96 crore in 2021 to ₹8,721.84 crore in 2024, indicating strong revenue expansion and improved operational activities.
- Profit After Tax (PAT) recorded losses during 2021 and 2022 but turned positive from 2023 onwards, demonstrating a notable recovery in profitability and financial stability.
- Net Worth improved substantially during the study period, indicating strengthening financial health and enhanced shareholder value.



- Current Assets exhibited continuous growth throughout the period, suggesting an improvement in liquidity and working capital position.

To Evaluate the Financial Efficiency of Indian Railways Using Selected Financial Indicators

- The average PAT was ₹566.12 crore, reflecting moderate profitability, although large fluctuations were observed across the years due to varying operational performance.
- The mean Net Worth and Capital Employed were approximately ₹9,690 crore each, indicating a strong capital base supporting railway operations.
- The descriptive statistics revealed substantial growth in Net Sales, Current Assets, and Capital Employed, highlighting expansion in operational scale and asset utilization.
- The negative kurtosis values and near-zero skewness values indicate that the financial variables were relatively stable and did not exhibit extreme fluctuations over the study period.
- Trend analysis showed that capital employed and current assets increased significantly up to 2023 before witnessing moderate declines, suggesting changes in investment and financing strategies.

To Analyze the Relationship Between Revenue Generation and Operating Performance

- A strong positive correlation (0.79) was observed between PAT and Net Sales, indicating that higher revenue generation contributed positively to profitability.
- Current Assets and PAT exhibited a very high positive correlation (0.96), suggesting that efficient management of short-term assets played a significant role in improving profits.
- Net Sales and Current Assets recorded a strong positive relationship (0.89), highlighting the importance of working capital in supporting revenue growth.
- Net Worth and Capital Employed showed a perfect positive correlation (1.00), indicating that growth in long-term capital resources moved directly with shareholders' funds.
- The t-test results confirmed statistically significant differences between PAT and all major financial variables, suggesting that growth in assets, sales, and capital investments was substantially higher than growth in profitability.

To Identify Major Challenges Affecting the Financial Sustainability of Indian Railways

- Despite significant growth in revenue and assets, profitability remained comparatively lower, indicating the presence of operational and expenditure-related challenges.
- The losses recorded during the initial years of the study highlight the vulnerability of railway finances to rising costs and operational inefficiencies.
- The weak relationship between PAT and both Net Worth (-0.01) and Capital Employed (-0.01) suggests that increased investment alone does not automatically translate into higher profitability.
- The decline in Net Sales, Net Worth, and Capital Employed during the final year of the study indicates the need for sustained financial planning and efficient resource utilization.
- The findings suggest that improving operational efficiency, controlling expenditure, strengthening asset utilization, and enhancing capital productivity are critical for ensuring the long-term financial sustainability of Indian Railways.

CONCLUSION

The study assessed the financial performance of Indian Railways using selected



financial indicators over the period from 2021 to 2025. The findings indicate that Indian Railways has experienced substantial growth in sales revenue, current assets, net worth, and capital employed, reflecting continuous expansion and increased investment in infrastructure and operational capabilities. Trend analysis revealed a remarkable recovery in profitability after the initial years of losses. Descriptive statistics showed significant improvements in the company's financial position, although profitability remained subject to fluctuations. Correlation analysis highlighted a strong positive relationship between Profit After Tax and variables such as Net Sales and Current Assets, emphasizing the importance of revenue generation and efficient working capital management. Conversely, profitability exhibited only a weak relationship with Net Worth and Capital Employed, indicating that higher investments and equity levels alone do not guarantee improved profits. The t-test results further confirmed significant differences between profitability and the selected financial variables. This suggests that while Indian Railways has successfully expanded its asset base and capital structure, the returns generated from these investments have not increased proportionately. Overall, the financial position of Indian Railways appears stable and improving; however, greater focus on efficiency, productivity, and cost management is required to maximize returns and achieve sustainable financial growth in the long run.

SUGGESTIONS AND RECOMMENDATIONS

1. Indian Railways should strengthen cost-control measures to reduce unnecessary operational expenditure and improve profitability.
2. Greater emphasis should be placed on enhancing asset utilization so that investments in infrastructure generate higher financial returns.
3. Modern technologies such as Artificial Intelligence, predictive maintenance systems, and digital monitoring tools should be adopted to improve operational efficiency.
4. Revenue diversification strategies should be encouraged through logistics services, station commercialization, advertising, and public-private partnerships.
5. Establish a comprehensive financial monitoring framework to track profitability, expenditure, and asset utilization on a continuous basis.
6. Increase investments in high-return infrastructure projects that contribute directly to revenue generation and operational efficiency.
7. Implement performance-based budgeting practices to ensure better financial accountability and resource management.



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