

Effectiveness of Cost Management Practices on Financial Performance - An Analytical Study

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Abstract: *This paper is an analysis on the effects and efficiency of the cost management practices on the financial performance of TCISL within a period of ten years between the year 2016 and 2025. The main subject of the research is the assessment of how the indicators of cost management can contribute to the profitability and how effective they can be in the long run. The secondary data was obtained using the published annual financial statements of the company. Ratios such as Cost Ratio, Net Profit Margin and Return on Assets (ROA) among others were calculated. The research objectives were met by using the statistical tools like trend analysis, correlation analysis and regression analysis. The results indicate that the influence of the cost ratio on net profit margin is negative, and it is statistically significant, which means that having an effective cost control can lead to a higher level of profitability. The long-term analysis also supports the fact that the long-term cost management practices have a great impact on the financial performance in the long-term. The regression results show that some cost management indicators do not have a statistically significant relationship with profitability ratios. In general, the research shows the need to focus on effective cost management practices to improve financial stability and long-term performance.*

Keywords: Cost Management Practices, Financial Performance, Profitability Ratios, Cost Efficiency, Regression Analysis.

JEL Codes: M41; G30; G32; D24; C31

1. Introduction

Cost management is an important aspect that has been a determinant of financial success and sustainability of organizations in the contemporary business environment that has been highly competitive. Organisations in capital-intensive and logistical based industries are constantly under pressure to limit expenses and preserve efficiency in operations and service delivery. Cost management practices assist organizations in tracking, controlling and minimizing the unwanted costs and hence enhance profitability and overall financial performance. Financial performance shows how efficiently and profitably a company operates and is usually quantified in financial measures in terms of financial ratios like Gross Profit Ratio, Net Profit Ratio, Operating Ratio and Return on Assets. Efficient cost management has a direct impact on these indicators because it maximizes the use of resources and cost-efficiency. This paper is titled Effectiveness of Cost Management Practices on Financial Performance: An Analytical Study and will be on Tarachand Infralogistic Solutions Limited (TCISL). The company is in the logistics and infrastructure support industry and cost control is an important aspect that helps the company to sustain long-term growth. The study is on the basis of secondary data gathered through published financial statements and utilizes ratio analysis and regression tools to analyse the connection between cost management practices and financial performance. The proposed study will endeavour to present the analytical information concerning the effectiveness of cost control strategies in enhancing profitability and long-term financial stability.

2. Review of Literature

(Anand, Sahay, & Saha 2020) investigated the cost management procedure used by Indian companies by interviewing 53 Chief Financial Officers (CFOs). The

research study revealed that the conventional approaches that include the standard costing, variable costing, absorption costing and budgetary control are still in high use, whereas the modern approach that includes the Activity-Based Costing (ABC) is on the rise. The ABC used gave improved cost and profitability data and enhanced benchmarking and budget support which means that the integration of the traditional and new cost management systems enhances the planning and performance of the organisation. On the same note, (Faten Albthouse et al.2020) searched 41 studies pertinent to cost management in construction projects and found that the key causes of cost overruns were design changes, inadequate cost estimation, unclear scope, unrealistic schedules, delayed payments, and ineffective budget management. The paper has highlighted the need to have proper planning, estimation and the use of good project management tools in controlling the costs and the end results of the project. The application of advanced cost management techniques in the Integrated Project Delivery (IPD) systems was also emphasized by (Elghaish, 2020). According to a survey of 50 experts, the researchers have found such tools as Activity-Based Costing, Earned Value Management, and 5D Building Information Modelling (BIM) to be valuable in enhancing cost visibility, tracking, and equitable risk sharing on project. Moreover, (Adigbole, Adebayo and Olubunmi, 2020) examined the effect of Strategic Cost Management practices on performance of manufacturing companies in Nigeria by using survey results that were assessed with the help of PLS-SEM. This research established that such contemporary methods as the Activity-Based Costing, Target Costing, Life Cycle Costing and Balanced Scorecard are very effective in enhancing the accuracy of cost, decision-making, productivity and performance of the entire organization. All in all, these papers point to the fact that implementation of both traditional and advanced cost management practices is significant in enhancing financial and organizational performance in various industries.

Research Gap

Research on the cost management practices and financial performance has been carried out on previous studies and has been carried out primarily in manufacturing companies and SMEs. Such studies concentrated on methods of budgeting, strategic cost management, and management accounting practices and their effects on profitability measures such as profit margin and Return on Assets (ROA). The majority of researchers referred to primary information gathered with questionnaires and surveys and utilized such tools as descriptive statistics to investigate several organisations. Nevertheless, few studies have scrutinized the cost management practice through secondary financial data which is the financial statements of one logistics company over a time. Therefore, this paper evaluates the efficacy of cost management practices on the Tarachand Infralogistic Solutions Limited (TCISL) financial performance using secondary data- in its annual reports and the correlation and regression models as ratio analysis to determine the relationship between cost management indicators and profitability ratios.

3. Research Methodology

3.1 Scope of the Study

This study will look at how the cost management practices affect the financial performance of Tarachand Infralogistic Solutions Limited (TCISL). It dwells upon the important cost elements (such as operating, administrative, employee, and transportation costs) and cost efficiency ratios based on secondary data on the annual reports of TCISL in the past decade. In this study, cost management practices are measured using financial cost indicators derived from the company's financial statements, such as cost ratio, employee cost percentage, and total cost percentage, which reflect the effectiveness of cost control within the organisation. Some of the financial performance measures include profitability ratios, operating margin, net profit margin, return on assets, and return on equity. The discussion identifies patterns of cost structure, cost management efficiency, as well as the correlation between cost management and the financial

performance. The research is constrained to financial and accounting information rather than on internal operational choices and is only applicable to TCISL, not in comparison with other companies.

3.2 Objectives

- 1) Evaluate the impact of cost management practices on the financial performance.
- 2) Examine the long-term effectiveness of cost management practices on the financial performance.
- 3) Assess the relationship between cost management indicators and profitability ratios.

3.3 Research Design

This research takes a descriptive and analytical research design. The descriptive element aids in investigation of the cost structure and financial performance of TCISL and the analytical element is used to test the correlation and regression between the cost management practices and financial performance in terms of ratio analysis and statistics. This study is quantitative because the data used in the study is in form of numbers that are based on financial data. The independent variables are the cost management practices, such as operating costs, administrative costs, employee costs. The dependent variables are measures of the company's financial performance, including net profit, operating profit, and profitability ratios. The study examines how cost management practices (independent) affect financial performance (dependent).

4. Observations and Discussions

Objective 1: Evaluate the impact of cost management practices on the financial performance.

H₀ (Null Hypothesis): Cost management practices have no significant impact on the financial performance.

H₁ (Alternative Hypothesis): Cost management practices have a significant impact on the financial performance.

Table 1: Presentation of data

Year	Revenue	Total Expenses	Net Profit	Finance Cost	Operating Expense	Cost Ratio	Net Profit Margin
2025	254.05	220.8	24.86	7.24	213.56	86.91%	10%
2024	174.86	153.15	16.13	7.15	146	87.58%	9%
2023	144.56	132.85	9.36	7.75	125.1	91.90%	6%
2022	130.35	130.58	2.37	9.5	121.08	100.18%	2%
2021	112.51	107.35	2.56	9.12	98.23	95.41%	2%
2020	115.12	104.59	7.97	7.87	96.72	90.85%	7%
2019	101.68	95.08	4.75	4.73	90.35	93.51%	5%
2018	82.95	76.53	4.61	4.23	72.3	92.26%	6%
2017	52.77	48.76	2.77	3.25	45.51	92.40%	5%
2016	46.22	44.44	1.19	3.33	41.11	96.15%	3%

Source: Annual report of TCISL and calculated using Excel

The effect of cost ratio (independent variable) on the net profit margin (dependent variable) was investigated using regression analysis. The strength and direction of the relationship were also measured by doing correlation analysis.

Table 2: Correlation Results

	Cost ratio	Net profit margin
Cost ratio	1	
Net profit margin	-0.963344	1

Source: Calculated by author

Table 3: Regression Results**Table 03 (a): Regression Model Summary**

Particulars	Value
Multiple R	0.9633
R Square (R ²)	0.928
Adjusted R Square	0.919
Observations	10

Source: Calculated by author

Table 03 (b): ANOVA (Model Significance)

Source	df	F-value	Significance (p-value)
Regression	1	103.159	0.00000756
Residual	8	—	—
Total	9	—	—

Source: Calculated by author

Table 03 (c): Coefficients (Impact Analysis)

Variable	Coefficient	t-Statistic	p-value
Intercept	0.6795	11.0343	0.00000405
Cost Ratio	-0.6741	-10.1567	0.00000756

Source: Calculated by author

The regression model was used to investigate the relationship between the cost ratio as the independent variable and net profit margin as the dependent variable on TCISL financial performance. The outcomes Table 3 reveal that there is a

significant negative correlation between the two, and the correlation coefficient Table 2 shows negative (-0.963). The value of R S is 0.928, which denotes that the variations in the net profit margin are explained by the change in the ratio of the costs by 92.8%. The model is statistically significant ($F = 103.159$, $p < 0.05$) and this is what confirms the validity of the model. The cost ratio regression coefficient ($\beta = -0.674$, $p = 0.05$) is a significant regression coefficient; that is, as cost ratio increases, the net profit margin decreases. In this way, the null hypothesis is rejected and the alternative accepted. The results clearly show that the cost management practices do affect the financial performance, and the management of costs should be effectively applied to enhance the profitability of TCISL.

Objective 2: Examine the long-term effectiveness of cost management practices on the financial performance.

H₀ (Null Hypothesis): Cost management practices do not significantly influence the long-term financial performance of TCISL.

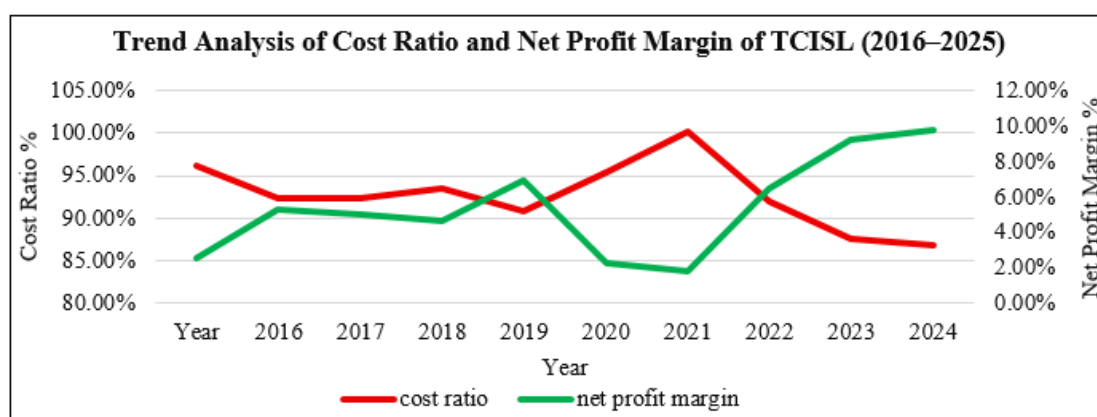
H₁ (Alternative Hypothesis): Cost management practices significantly influence the long-term financial performance of TCISL.

Table 4: Presentation of Data

Year	Revenue	Total Expenses	Net Profit	Cost ratio	Net Profit Margin
2016	46.22	44.44	1.19	96.15%	2.57%
2017	52.77	48.76	2.77	92.40%	5.25%
2018	82.95	76.53	4.16	92.26%	5.02%
2019	101.65	95.08	4.75	93.54%	4.67%
2020	115.12	104.59	7.97	90.85%	6.92%
2021	112.51	107.35	2.56	95.41%	2.28%
2022	130.35	130.58	2.37	100.18%	1.82%
2023	144.56	132.85	9.36	91.90%	6.47%
2024	174.86	153.15	16.13	87.58%	9.22%
2025	254.05	220.8	24.86	86.91%	9.79%

Source: 1. Annual report of TCISL

5. Last 2 columns calculated by author

**Graph 1: Trend Analysis of Cost Ratio and Net Profit Margin**

Source: Calculated by Author using Table 4

Table 5: Regression Result: Examine the long-term effectiveness of cost management practices on the financial performance.

Table 05 (a): Regression Model Summary

Particulars	Value
Multiple R	0.9598
R Square (R ²)	0.9212
Adjusted R Square	0.9114
Observations	10

Source: Calculated by Author using Table 04

Table 05 (b): ANOVA (Model Significance)

Source	df	F-value	Significance (p-value)
Regression	1	93.53	0.000010890
Residual	8	—	—
Total	9	—	—

Source: Calculated by Author using Table 04

Table 5 (c): Coefficients (Impact Analysis)

Variable	Coefficient	t-Statistic	p-value
Intercept	0.6773	10.5006	0.00000589
Cost Ratio	-0.6723	-9.6711	0.00001089

Source: Calculated by Author using Table 04

The trend analysis in Graph 1 shows that there was an up and down but generally improving trend in cost management and profitability during the study period. The cost ratio was high in some years, specifically, in 2021 and 2022, going over 95% and even 100% in 2022, and when the net profit margin has fallen considerably. But as a trend since 2023 the ratio of costs reduced steadily to 86.91% in 2025 and the net profit margin rose to 9.79%. In Table 5 there is negative correlation between profitability and cost ratio represents an efficiency of cost control measures in the long-term perspective. These are

further buttressed by the regression analysis. The R square value (0.9212) indicates that the change in the ratio of the cost (92.12) can explain the change in the net profit margin. The regression model is significant ($F = 93.5297$, $p < 0.05$). The coefficient of the cost ratio regression $\beta = -0.6722$ statistically significant ($p < 0.05$) implies that a significant change in the profitability would be a significant decrease in case of an increase in the cost ratio. Therefore, the null hypothesis is discarded and the alternative hypothesis accepted, which means that the cost management practices have a great impact on the long-term financial performance of TCISL.

Objective 3: Assess the relationship between cost management indicators and profitability ratios.

H₀ (Null Hypothesis): There is no significant relationship between cost management indicators and profitability ratios of TCISL.

H₁ (Alternative Hypothesis): There is a significant relationship between cost management indicators and profitability ratios of TCISL.

Table 6: Presentation of Data

Year	Revenue from Operations	Other Expenses	Employee cost	Depreciation and Amortisation Expenses	Total expenses	Net profit after tax	Operating Profit	Total asset
2016	45.7	19.25	9.45	4.66	44.44	1.19	1.78	46.1
2017	51.76	21.97	9.54	4.23	48.76	2.77	4.01	66.2
2018	42.77	34.03	15.82	6.35	76.53	4.61	6.42	116
2019	55.62	44.06	21.44	10.4	95.08	4.75	6.6	135
2020	112.8	45.31	23.43	17.2	104.59	7.97	10.53	196
2021	110.11	43.38	19.31	22.3	107.35	2.56	5.15	218
2022	128.19	63.86	22.75	23.15	130.58	2.37	-0.23	203
2023	141.06	68.04	20.87	22.46	132.85	9.36	11.71	226
2024	172.02	79.69	23.77	29.37	153.15	16.13	21.71	257
2025	247.82	127.39	29.73	43.66	220.8	24.86	33.25	390

Source: Annual report of TCISL

Table 7: Ratio Calculation

Year	Employee cost%	Other Expenses %	Total cost %	Net profit %	ROA
2016	20.68%	42.12%	62.80%	2.60%	2.58%
2017	18.43%	42.45%	60.88%	5.35%	4.18%
2018	36.99%	79.57%	116.55%	10.78%	3.95%
2019	38.55%	79.22%	117.76%	8.54%	3.50%
2020	20.77%	40.17%	60.94%	7.07%	4.07%
2021	17.54%	39.40%	56.93%	2.32%	1.17%
2022	17.75%	49.82%	67.56%	1.85%	1.17%
2023	14.80%	48.23%	63.03%	6.64%	4.13%
2024	13.82%	46.33%	60.14%	9.38%	6.28%
2025	12.00%	51.40%	63.40%	10.03%	6.36%

Source: Calculated by Author using Table 06

Table 8: Correlation results

	Employee cost%	Employee cost%	Other Expenses %	Total cost %	Net profit %	ROA
Employee cost	1	1				
Other Expenses	0.8565	0.856	1			
Total cost	0.9434	0.943	0.9792	1		
Net profit	0.3076	0.307	0.5783	0.4924	1	
ROA	-0.1941	-0.194	0.0968	-0.0141	0.8274	1

Source: Calculated by Author using Table 06

The findings of the correlation in Table 8 indicate different correlations between indicators of costs and profitability. There is a moderate positive correlation between Net Profit and Total Cost ($r = 0.492$), which shows that there is a

relationship between total cost structure and profitability. Total Cost% on the contrary is slightly negatively associated with ROA. No significant correlation with the return on assets, ($r = -0.014$). Costs of employees and other expenses

are correlated at very high degrees, which means that they are interdependent in cost structure in the company. Also, Net Profit Percent is strongly positive related to ROA ($r = 0.827$), meaning that the more profitable a company is, the better its asset returns.

Table 9: Regression results: Net Profit as Dependent Variable

Table 9 (a): Regression Model Summary

Particulars	Value
Multiple R	0.4925
R Square (R^2)	0.2425
Adjusted R Square	0.1479
Observations	10

Source: Calculated by Author using Table 06

Table (b): ANOVA (Model Significance)

Source	df	F-value	Significance (p-value)
Regression	1	2.5617	0.1482
Residual	8	—	—
Total	9	—	—

Source: Calculated by Author using Table 06

Table 9 (c): Coefficients (Impact Analysis)

Variable	Coefficient	t-Statistic	p-value
Intercept	0.0137	0.4104	0.6923
Total Cost %	0.0697	1.6005	0.1482
Variable	Coefficient	t-Statistic	p-value

Source: Calculated by Author using Table 06

Table 9 the regression was estimated using Net Profit as the dependent variable and Total Cost as the independent variable. The results show that the R SQ is 0.2425, and it implies that the percentage change in Net Profit accounts 24.25 percent of the total cost variation. Nevertheless, the model is not statistically significant ($F = 2.5616$, $p = 0.148 > 0.05$). The coefficient of Total Cost has a positive value ($\beta = 0.0697$), but not statistically significant ($p = 0.148$). Hence, the effect of Total Cost % on Net Profit is not statistically significant on Net Profit of the study period.

Table 10: Regression results: ROA as Dependent Variable

Table 10 (a): Regression Model Summary

Particulars	Value
Multiple R	0.0141
R Square (R^2)	0.0002
Adjusted R Square	-0.1248
Observations	10

Source: Calculated by Author using Table 06

Table 10 (b): ANOVA (Model Significance)

Source	df	F-value	Significance (p-value)
Regression	1	0.0016	0.9691
Residual	8	—	—
Total	9	—	—

Source: Calculated by Author using Table 06

Table 10 (c): Coefficients (Impact Analysis)

Variable	Coefficient	t-Statistic	p-value
Intercept	0.0382	1.8652	0.0991
Total Cost %	-0.0011	-0.04	0.9691

Source: Calculated by Author using Table 06

Regression analysis of Table 10 of ROA as the dependent variable demonstrates that the R Square of 0.0002 demonstrates that only 0.02% of the variation in ROA is explained by Total Cost %. The model is not statistically significant ($F = 0.0016$, $p = 0.969 > 0.05$). The coefficient of Total Cost % ($\beta = -0.00107$) is also statistically insignificant ($p = 0.969$), indicating that cost management indicators have no measurable impact on ROA during the study period.

The correlation analysis in Table 8 and regression output Table 9 and 10 indicate that both regression model p-values (Net Profit percent and ROA as dependent variables) exceed the 0.05 level of significance. It means that the correlation between cost management indicators and profitability ratios does not show any statistically significant value over the course of the study. Even though some moderate correlations were found, the outcomes of the regression do not bring enough statistical evidence to demonstrate the significance of the relationship. Thus, the null hypothesis according to which no significant correlation exists between the indicators of cost management and profitability ratios of TCISL is accepted and the alternative hypothesis is rejected. In general, the results indicate that some of the cost factors are moderately correlated with the variables of profitability, but during the research, cost management indicators have no significant impact on Net Profit % and ROA.

6. Conclusion

The research concludes that cost management practices are relevant in determining the financial performance of TCISL. Cost control helps improve profitability, as indicated by the strong negative relationship between cost ratio and net profit margin. The long-term evaluation also reveals that effective cost management leads to improved financial performance in the long run. However, the regression analysis with the use of single cost indicators like Total Cost % did not reveal statistically significant association with Net Profit % and ROA. This implies that the overall cost efficiency can have an impact on profitability but the specific cost elements do not have an independent effect on financial performance in the study period.

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