

Financial Forecasting for Expansion

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ABSTRACT: This study analyses the financial performance of Pinnacle Hitech Industry, an engineering Micro, Small and Medium Enterprise (MSME) based in Coimbatore, Tamil Nadu, specialising in precision machining, welding fabrication, and heat-treatment services. Covering four financial years from FY 2021–22 to FY 2024–25, the research employs descriptive statistical analysis, Pearson correlation analysis, Ordinary Least Squares (OLS) linear regression, multi-year trend analysis, and key financial ratio evaluation to assess the company's financial health, operational efficiency, and expansion readiness. The findings reveal a remarkable revenue growth from ₹72.67 Lakhs in FY 2021–22 to ₹5.10 Crore in FY 2024–25, representing a three-year Compound Annual Growth Rate (CAGR) of 91.4%. The company successfully reversed a net loss of ₹53.3 Lakhs in FY 2021–22 to achieve a peak net profit of ₹1.79 Crore in FY 2023–24. Correlation analysis reveals near-perfect associations between income and total assets ($r = 0.987$) and strong positive relationships between income and expenses ($r = 0.935$), confirming a cost-driven scaling model. Regression forecasting projects FY 2025–26 income at approximately ₹6.82 Crore with an estimated net profit of ₹2.61 Crore. Despite strong profitability, liquidity analysis identifies a declining current ratio ($0.87\times$) and increasing debt–equity ratio ($2.48\times$), indicating areas requiring strategic financial attention. The study concludes that Pinnacle Hitech Industry is positioned on a robust growth trajectory, though balanced capital management and improved working capital monitoring are essential for sustainable long-term expansion.

Keywords: Financial Performance Analysis, MSME, Pinnacle Hitech Industry, Regression Analysis, Ratio Analysis, Trend Analysis, Coimbatore, Manufacturing, Forecasting

1. INTRODUCTION

The manufacturing and engineering sector constitutes one of the most significant pillars of economic development in India, contributing substantially to industrial output, employment generation, export earnings, infrastructure development, and technological advancement. Within this ecosystem, Micro, Small and Medium Enterprises (MSMEs) play an indispensable role as supporting units to large-scale industries by offering specialised services such as precision machining, metal fabrication, welding, tooling, and customised engineering solutions.

Coimbatore, widely recognised as the 'Manchester of South India,' hosts a thriving engineering MSME cluster supported by skilled technical manpower, engineering colleges, industrial estates, and export-oriented manufacturing units. Among these, Pinnacle Hitech Industry operates as a growing engineering MSME specialising in precision machining, fabrication, and engineering services, serving both domestic and export markets.

Rapid business growth, while indicative of market success, frequently introduces financial complexities including rising operating costs, working capital pressures, debt financing needs, and margin volatility. Without systematic financial evaluation, management may struggle to identify operational inefficiencies or emerging financial risks. This study addresses this gap by conducting a comprehensive financial performance analysis of Pinnacle Hitech Industry, integrating statistical forecasting techniques with financial ratio analysis to assess the company's current health and future expansion readiness.

2. REVIEW OF LITERATURE

Financial performance analysis has attracted considerable scholarly attention across industries. Singh and Verma (2023) demonstrated that Indian manufacturing MSMEs adopting structured financial monitoring systems showed stronger profitability stability and quicker operational recovery during the post-pandemic period. Rao and Iyer (2023) concluded that capital investments in plant and machinery enhance revenue generation only when supported by efficient cost control mechanisms.

Gupta and Mehta (2024) identified regression analysis as a powerful tool for predicting sales growth and profitability among SMEs, recommending its integration into annual budgeting processes. The World Bank MSME Financial Study (2024) emphasised that MSMEs adopting structured financial analysis frameworks achieve higher credit ratings and improved investment readiness. Nair and Subramanian (2024) found that effective liquidity management and efficient debtor collection systems directly influence operational sustainability in South Indian manufacturing firms.

Patel and Shah (2025) demonstrated that correlation and regression analysis help management understand relationships between income, expenses, and profit, supporting evidence-based expansion decisions. The OECD SME Performance Report (2025) identified financial forecasting capability as a major determinant of global MSME competitiveness. Kumar and Reddy (2023) confirmed that operational efficiency and asset turnover ratios strongly influence long-term financial sustainability in Indian engineering MSMEs.

Research Gap

Most prior studies concentrate on ratio analysis without integrating advanced statistical techniques, focus on large corporations or Bollywood-style industries rather than regional engineering MSMEs, and provide limited emphasis on financial forecasting combined with expansion readiness evaluation. The present study addresses these gaps by applying an integrated multi-method framework specifically tailored to a growth-stage engineering MSME in the Coimbatore industrial cluster.

3. RESEARCH METHODOLOGY

3.1 Research Design

The study adopts a Descriptive and Analytical Research Design. Descriptive research describes financial conditions and performance trends based on historical data, while analytical research applies statistical techniques including ratio analysis, correlation, and regression to evaluate financial relationships and forecast future performance.

3.2 Data Source and Study Period

The study relies exclusively on secondary data obtained from the audited income statements, balance sheets, financial accounts, asset registers, and internal accounting reports of Pinnacle Hitech Industry. The analysis covers four consecutive financial years: FY 2021–22 to FY 2024–25, capturing the company's post-pandemic recovery, operational expansion, and revenue growth phases.

3.3 Analytical Tools and Techniques

The following analytical frameworks were employed:

- ▶ Descriptive Statistical Analysis: Mean, median, standard deviation, CAGR, and coefficient of variation to summarise financial data.
- ▶ Pearson Correlation Analysis: To measure the strength and direction of associations between financial variables.
- ▶ Ordinary Least Squares (OLS) Regression: To quantify growth trends and forecast FY 2025–26 financial performance.

- Trend Analysis: Multi-year directional analysis of revenue, expenses, and profitability.
- Financial Ratio Analysis: Liquidity, leverage, profitability, and efficiency ratios.

4. DATA ANALYSIS AND FINDINGS

4.1 Descriptive Statistical Analysis

Table 1 presents the multi-year financial summary of Pinnacle Hitech Industry over the four-year study period.

Table 1: Multi-Year Financial Summary (FY 2021–22 to FY 2024–25)

Metric	FY 2021–22	FY 2022–23	FY 2023–24	FY 2024–25
Total Income	₹72.67 L	₹2.85 Cr	₹4.17 Cr	₹5.10 Cr
Total Expenses	₹1.26 Cr	₹2.35 Cr	₹2.38 Cr	₹3.65 Cr
Net Profit / (Loss)	(₹53.3 L)	₹50.2 L	₹1.79 Cr	₹1.45 Cr
Profit Margin %	–73.4%	17.6%	42.8%	28.4%
Expense Ratio %	173.4%	82.4%	57.2%	71.6%

The company recorded a three-year CAGR of 91.4% in total income, advancing from ₹72.67 Lakhs in FY 2021–22 to ₹5.10 Crore in FY 2024–25. The mean income over the study period stands at ₹3.21 Crore, with a standard deviation of ₹1.89 Crore reflecting the dynamic growth trajectory. Expense CAGR of 42.5% indicates that revenue grew significantly faster than operating costs, driving margin improvement. The profit margin peaked at 42.8% in FY 2023–24, representing peak operational efficiency before moderating to 28.4% in FY 2024–25 due to expansion-related cost increases. The coefficient of variation for net profit at 130.2% reflects the turbulent transition from a loss-making phase to a high-profit growth phase.

4.2 Balance Sheet Analysis

Table 2 summarises the key balance sheet indicators over the three-year period for which complete balance sheet data are available.

Table 2: Balance Sheet Summary (FY 2022–23 to FY 2024–25)

Balance Sheet Item	FY 2022–23	FY 2023–24	FY 2024–25	3-yr Change
Total Assets	₹1.85 Cr	₹2.67 Cr	₹2.97 Cr	+60.5%
Fixed Assets	₹80.1 L	₹1.78 Cr	₹1.72 Cr	+114.6%
Current Assets	₹1.05 Cr	₹89.3 L	₹1.25 Cr	+19.1%
Capital Account	₹46.3 L	₹61.6 L	₹44.0 L	–5.0%
Loans (Liability)	₹65.0 L	₹1.04 Cr	₹1.09 Cr	+67.8%
Current Liabilities	₹73.6 L	₹1.03 Cr	₹1.44 Cr	+95.3%
Sundry Debtors	₹58.6 L	₹64.1 L	₹78.7 L	+34.2%
Bank Balance	₹27.0 L	₹5.9 L	₹31.0 L	+14.9%

Total assets expanded by 60.5% over three years, driven primarily by a 114.6% surge in fixed assets — reflecting significant capital expenditure in machinery, factory building, and production infrastructure. Current

liabilities rose sharply by 95.3%, warranting careful working capital management. The bank balance, despite mid-period dips, recovered to ₹31.0 Lakhs by FY 2024–25, indicating improving cash management practices.

4.3 Correlation Analysis

Pearson correlation coefficients were computed between key financial variables. Table 3 presents the correlation matrix.

Table 3: Pearson Correlation Matrix

Variable Pair	Pearson r	R ²	Interpretation
Income ↔ Expenses	0.935	0.874	Strong positive — costs scale with revenue
Income ↔ Net Profit	0.943	0.890	Strong positive — revenue drives profit
Expenses ↔ Net Profit	0.764	0.583	Moderate — cost control drives profitability
Income ↔ Total Assets	0.987	0.974	Near-perfect — asset base enables income
Income ↔ Sundry Debtors	0.936	0.876	Strong — higher revenue creates more receivables

The near-perfect correlation between income and total assets ($r = 0.987$) confirms that asset investments — particularly CNC machinery and factory infrastructure — have directly enabled revenue generation. The strong income–profit correlation ($r = 0.943$) demonstrates effective operational leverage, where revenue expansion translates into earnings improvement once fixed overheads are covered. The moderate expenses–profit correlation ($r = 0.764$) underscores that cost management remains a critical lever for profitability even during expansion. Note: p-values exceed 0.05 for several pairs due to the small sample size ($n = 4$), and results should be interpreted as directional signals rather than statistically definitive conclusions.

4.4 Regression Analysis and Forecasting

OLS linear regression was applied with financial year as the independent variable (time index) to quantify growth trends and generate point forecasts for FY 2025–26. Table 4 summarises the regression results.

Table 4: OLS Linear Regression Results and FY26 Forecasts

Dependent Variable	Slope (₹/yr)	R ²	p-value	FY26 Forecast	Fit Quality
Income	₹1.44 Cr/yr	0.966	0.017*	₹6.82 Cr	Excellent
Expenses	₹0.72 Cr/yr	0.907	0.048*	₹4.21 Cr	Good
Net Profit	₹0.72 Cr/yr	0.802	0.104	₹2.61 Cr	Moderate

* Statistically significant at $p < 0.05$ (two-tailed)

Income regression yields an excellent fit ($R^2 = 0.966$), with annual income growing at ₹1.44 Crore per year. The projected FY 2025–26 income of ₹6.82 Crore implies continued strong market demand and operational capacity expansion. Expense regression ($R^2 = 0.907$) shows expense growth of ₹0.72 Crore per year — approximately half the income growth rate — indicating expanding profit margins over time. The expense elasticity of 0.48 (for every ₹1 of income, only ₹0.48 is spent) confirms a healthy contribution margin of approximately 52%. The net profit forecast of ₹2.61 Crore for FY 2025–26 represents a plausible baseline scenario, subject to order volatility, raw material price changes, and capacity constraints.

4.5 Trend Analysis

The study identifies three distinct financial phases in the company's evolution:

Phase 1 — Turnaround (FY22 → FY23):

Revenue surged 291.9% from ₹72.7 Lakhs to ₹2.85 Crore, driven by new GST-registered client wins and probable capacity additions. While expenses doubled (+86.2%), income nearly quadrupled, enabling a swing from a ₹53.3 Lakh loss to a ₹50.2 Lakh profit in a single year — a transformative financial turnaround.

Phase 2 — Consolidation and Peak Margin (FY23 → FY24):

Revenue grew 46.4% while expenses were virtually flat (+1.6%), making this the most capital-efficient year with a peak profit margin of 42.8%. Major capital expenditure was deployed, with fixed assets doubling to ₹1.78 Crore through factory building and land acquisitions, positioning the company for future scale.

Phase 3 — Growth Acceleration with Cost Pressure (FY24 → FY25):

Revenue grew 22.2% on an increasingly large base, while expenses surged 52.9%, driven by employee welfare (₹93.9 L), welding tools (₹43.5 L), water charges (₹31 L), and service charges (₹18 L). Export revenue emerged at ₹60.3 Lakhs, indicating early-stage international diversification. Current liabilities rose 39% year-on-year, highlighting the need for tighter working capital management.

4.6 Financial Ratio Analysis

Table 5 presents the key financial ratios computed for the three-year period for which balance sheet data are available.

Table 5: Key Financial Ratios (FY 2022–23 to FY 2024–25)

Ratio	FY 2022–23	FY 2023–24	FY 2024–25	Trend
Net Profit Margin	17.6%	42.8%	28.4%	▲ ▼ Volatile
Expense Ratio	82.4%	57.2%	71.6%	▼ ▲ Improving
Asset Turnover Ratio	1.54×	1.56×	1.72×	▲ Improving
Fixed Asset Ratio	43.3%	66.6%	57.9%	▲ ▼ Capex Phase
Current Ratio (est.)	1.42×	0.87×	0.87×	▼ ▼ Declining
Debt–Equity Ratio	1.40×	1.69×	2.48×	▲ Leveraging
Debtor Turnover Ratio	4.86×	6.51×	6.47×	▲ Stable

The steadily improving asset turnover ratio (1.54× to 1.72×) confirms increasing operational productivity and effective utilisation of expanded machinery and infrastructure. The debtor turnover ratio of 6.47× in FY 2024–25 indicates efficient receivable collection practices, providing adequate liquidity support despite higher credit sales volumes. However, the declining current ratio (1.42× to 0.87×) raises liquidity concerns, as a ratio below 1.0 indicates that short-term liabilities exceed current assets. The rising debt–equity ratio (1.40× to 2.48×) reflects an aggressive leveraging strategy that, while supporting growth, increases financial risk and repayment obligations.

5. CONCLUSION

This study demonstrates that Pinnacle Hitech Industry has executed a remarkable financial transformation over the four-year study period. From a loss-making micro enterprise in FY 2021–22, the company has evolved into

a profitable, expanding MSME with a revenue CAGR of 91.4% and a peak profit margin of 42.8%. The near- perfect correlation between asset growth and income ($r = 0.987$) confirms that capital investments have been productive and well-aligned with business growth objectives. Regression forecasting projects FY 2025–26 income at ₹6.82 Crore with a net profit of ₹2.61 Crore, indicating continued strong growth momentum.

However, three areas require strategic attention. First, the declining current ratio ($0.87\times$) signals working capital pressure that must be addressed through faster receivable collections, optimised inventory management, and renegotiated supplier credit terms. Second, the rising debt–equity ratio ($2.48\times$) indicates increasing financial leverage risk; future expansion should incorporate a balanced mix of internal accruals, equity infusion, and moderate borrowing. Third, expense growth acceleration in FY 2024–25 (+52.9%) warrants structured cost monitoring through budgeting systems and periodic variance analysis.

Overall, Pinnacle Hitech Industry is positioned on a robust and sustainable growth trajectory. The evidence- based financial planning framework presented in this study provides a replicable model for financial evaluation and strategic decision-making applicable to other growth-stage engineering MSMEs in India's regional industrial clusters.

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