

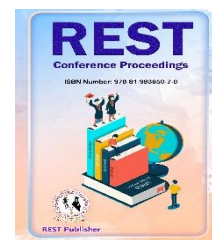


REST Conference Proceedings

Vol: 1(2), 2025

REST Publisher; ISBN: 978-81-993050-7-6

Website: <https://restpublisher.com/book-series/rcp/>



A Study of Working Capital Management at Jadhao Gears Ltd, Amravati

Khushi S. Sahu, S.B. Malani

SIPNA C.O.E.T., Amravati, Maharashtra, India.

Abstract: This research study examines the working capital management practices of Jadhao Gears Limited, a leading manufacturer in the ginning and pressing machinery sector. The study spans the financial years 2020 to 2023 and focuses on analysing the company's short-term financial health through key metrics such as current and quick ratios, gross and net profit ratios, and components of working capital including inventory, receivables, payables, and cash balances. Using ratio analysis and trend interpretation, the research highlights the company's strong current ratio performance, suggesting its ability to meet short-term liabilities. However, a declining trend in quick ratios and profitability indicators raises concerns about liquidity management and operational efficiency. The findings also point to fluctuations in inventory and receivables, suggesting inconsistencies in financial planning and control. The study concludes with recommendations to strengthen receivables management, optimize inventory levels, and improve overall profitability. This research offers practical insights into the importance of efficient working capital management for sustaining business operations and enhancing financial performance.

Keywords: Working Capital Management, Liquidity, Profitability, Financial Ratios, Current Ratio, Quick Ratio, Cash Conversion Cycle, Jadhao Gears Ltd., Inventory Management, Receivables Management, Payables Management, Operational Efficiency, Financial Performance.

1. INTRODUCTION

In today's dynamic and competitive business environment, maintaining financial stability and operational efficiency is essential for the sustainability and growth of any organization. One of the key aspects of financial management that directly impacts a firm's liquidity, solvency, and profitability is working capital management. Working capital represents the difference between current assets and current liabilities and is crucial for supporting day-to-day business operations such as purchasing raw materials, paying wages, and managing receivables and payables. Effective working capital management ensures that a firm has adequate cash flow to meet its short-term obligations while avoiding excess idle resources. It encompasses the strategic handling of cash, inventory, receivables, and payables to strike a balance between risk and return. Poor working capital management can lead to financial distress, even in otherwise profitable businesses, whereas efficient management can improve profitability, enhance creditworthiness, and promote long-term stability. This study focuses on Jadhao Gears Limited, a well-established manufacturer and exporter of cotton ginning and pressing machinery. The research analyzes the company's working capital trends over four financial years (2020–2023) to assess its efficiency in managing current assets and liabilities. By applying ratio analysis, trend evaluation, and examining the components of working capital, this study aims to identify strengths, weaknesses, and opportunities for improvement in the company's financial strategy.

Objective:

1. To understand the concept and components of working capital management.
2. To analyse the trends in working capital and its components (inventory, receivables, payables, cash) over the period 2020–2023.
3. To evaluate the efficiency of working capital utilization through financial ratio analysis.
4. To examine the relationship between working capital and profitability.
5. To identify changes in working capital position and their implications for operational performance.

Scope of The Research:

The present research focuses on analyzing the working capital management of Jadhao Gears Limited for the period 2020–2023, with the objective of understanding its impact on liquidity and profitability. The scope is limited to financial data derived from the company's published statements, emphasizing key ratios such as current ratio, quick ratio, receivables, inventory, payables, and profitability indicators. The study concentrates exclusively on the ginning and pressing machinery sector, providing an in-depth assessment of a single organization's financial efficiency rather than a broad industry-wide analysis. It aims to identify trends,

strengths, and weaknesses in working capital practices and to establish the relationship between working capital efficiency and the cash conversion cycle. The findings are intended to provide useful insights for the company's management, financial analysts, and future researchers in the field of corporate finance and operational efficiency.

Limitation of The Study:

This study is limited to the financial performance and working capital data of Jadhao Gears Limited for the period 2020–2023, which may not capture long-term trends or the full impact of external market fluctuations. The analysis relies entirely on secondary data obtained from published financial statements, which may be subject to accounting policies or reporting practices that influence the results. As the study focuses on a single company in the ginning and pressing machinery sector, the findings may not be directly generalizable to other industries or organizations with different operational structures. Additionally, the research does not incorporate qualitative insights from management or stakeholders, which could have provided context to the numerical trends. External economic factors such as inflation, interest rates, and supply chain disruptions were also not analyzed in depth, which may have influenced working capital efficiency during the study period.

2. METHODOLOGY

This study employs a descriptive research design to evaluate the working capital management practices of Jadhao Gears Limited over a four-year period from 2020–21 to 2023–24. The research is based on secondary data obtained from the company's audited annual reports and financial statements. Key financial indicators such as the Current Ratio, Quick Ratio, Inventory Turnover, Debtor Turnover, Gross Profit Ratio, and Net Profit Ratio were analyzed to assess liquidity, operational efficiency, and profitability. Ratio analysis and trend analysis were used to interpret the effectiveness of working capital utilization and changes in financial performance over the years. The purposive sampling technique was adopted, focusing exclusively on Jadhao Gears Ltd. as the unit of analysis. Statistical tools like Microsoft Excel were used for data computation, charting, and identifying financial trends. The study also includes interpretation of the cash conversion cycle to understand the relationship between receivables, payables, inventory, and cash flow. This methodology enables a comprehensive examination of the company's short-term financial management and offers insights into potential areas of improvement.

3. DATA ANALYSIS

1. Working Capital Position (2020–2023)

- The company has maintained positive working capital across all four years, indicating its ability to meet short-term liabilities. However, fluctuations in working capital figures suggest inconsistency in managing current assets and liabilities.
- Highest working capital was recorded in 2020 at ₹17.83 crore.
- In 2023, it declined significantly to ₹11.59 crore, indicating reduced liquidity and possible cash flow concerns.

2. Trend in Key Components

Inventory:

Inventory levels rose steadily from 2020 to 2022, peaking at ₹29.96 crore, before dropping to ₹22.30 crore in 2023. The 2023 decline may indicate better inventory turnover or reduced production in response to market demand.

Receivables:

Receivables showed a concerning trend, turning negative from 2021 onwards and deteriorating sharply in 2023 to -₹66 crore, which suggests major collection issues or excessive customer advances affecting the cash cycle.

Payables:

Payables varied widely, reaching a peak in 2022 at ₹9.22 crore, then falling to ₹4.29 crore in 2023. This may indicate improved payment schedules or reduced supplier credit terms.

Cash & Equivalents:

Cash holdings dropped significantly in 2021 but recovered slightly in subsequent years. In 2023, cash and equivalents stood at ₹11.06 lakh, suggesting marginal liquidity improvement.

3. Ratio Analysis

Current Ratio:

The current ratio remained above the ideal benchmark (2:1), ranging from 4.57 in 2020 to 2.79 in 2023. This indicates strong short-term solvency but also hints at underutilized assets in earlier years.

Quick Ratio:

The quick ratio declined drastically, turning negative in 2022 (-0.05) and 2023 (-0.66). This sharp fall reflects the company's dependence on inventory to meet liabilities and signals potential liquidity risks.

Gross Profit Ratio:

The gross profit ratio declined consistently from 17.95% in 2020 to 12.97% in 2023. This downward trend suggests rising production costs or reduced pricing power.

Net Profit Ratio:

Net profitability peaked at 2.21% in 2021 but declined significantly, resulting in a net loss and a negative ratio of -6.29% in 2023. This reflects deteriorating operational efficiency and profit margins.

4. Statement of Changes in Working Capital

- In 2021-22, net working capital decreased by ₹1.74 crore due to a drop in current assets.
- In 2022-23, it rose by ₹1.63 crore, mainly due to a large increase in inventory.
- In 2023-24, working capital decreased sharply by ₹6.13 crore, raising concerns about asset management and cash availability.

Hypothesis of The Study:

- **Null Hypotheses (H₀):** *H₀₁: The working capital of the company is not utilized effectively in Jadhao Gears Ltd.*
H₀₂: There is no relation between working capital and the cash conversion cycle.
- **Alternative Hypotheses (H₁):** *H₁₁: The working capital of the company is utilized effectively in Jadhao Gears Ltd.*
H₁₂: Working capital and the cash conversion cycle are related for Jadhao Gears Ltd.

TABLE 1. Working Capital Data (from 2020 to 2023)

Year	Current Assets (₹)	Current Liabilities (₹)	Working Capital (₹)
2020	22,83,43,880.92	4,99,48,108.00	17,83,95,772.92
2021	21,26,78,764.73	5,16,83,790.00	16,09,94,974.73
2022	29,39,89,575.00	12,15,93,905.00	17,23,95,670.00
2023	18,06,27,379.64	6,46,29,905.40	11,59,97,474.24

TABLE 2. Current Ratio (Indicator of Working Capital Utilization)

Year	Current Ratio = Current Assets / Current Liabilities
2020	22,83,43,880.92 / 4,99,48,108.00 = 4.57
2021	21,26,78,764.73 / 5,16,83,790.00 = 4.11
2022	29,39,89,575.00 / 12,15,93,905.00 = 2.42
2023	18,06,27,379.64 / 6,46,29,905.40 = 2.79

Although the current ratio remained above 2:1 (ideal level), it decreased, indicating improved efficiency. Still, a strong ratio alone doesn't prove effectiveness if profitability and quick ratios are poor.

TABLE 3. Analyze Quick Ratio (Acid Test for Utilization)

Year	Quick Ratio = Quick Assets / Current Liabilities
2020	5,54,58,497.00 / 4,99,48,108.00 = 1.11
2021	2,33,51,581.03 / 5,16,83,790.00 = 0.45
2022	-56,24,494.00 / 12,15,93,905.00 = -0.05
2023	-4,23,80,546.36 / 6,46,29,905.40 = -0.66

A quick ratio below 1 (and negative in later years) indicates that liquid assets (excluding inventory) were insufficient to meet short-term obligations, suggesting inefficient utilization of working capital.

TABLE 4. Correlation Analysis Between Working Capital and Receivables to test H₀₂ and H₁₂, we use Pearson correlation between Working Capital and Receivables

Year	Working Capital (₹)	Receivables (₹)
2020	17,83,95,772.92	43,85,768
2021	16,09,94,974.73	-28,97,611
2022	17,23,95,670.00	-3,24,66,993
2023	11,59,97,474.24	-66,00,81,177.40

TABLE 5. Calculate the Pearson correlation coefficient (r)

Year	Working Capital (x)	Receivables (y)	x * y	x ²	y ²
2020	17,83,95,772.92	43,85,768	7.824 × 10 ¹⁴	3.182 × 10 ¹⁶	1.923 × 10 ¹³
2021	16,09,94,974.73	-28,97,611	-4.665 × 10 ¹⁴	2.592 × 10 ¹⁶	8.396 × 10 ¹²
2022	17,23,95,670.00	-3,24,66,993	-5.597 × 10 ¹⁵	2.972 × 10 ¹⁶	1.054 × 10 ¹⁵
2023	11,59,97,474.24	-66,00,81,177.40	-7.657 × 10 ¹⁶	1.346 × 10 ¹⁶	4.357 × 10 ¹⁷

Pearson Correlation Formula

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Step 1: Calculate Sums

n = 4
 $\sum x = 627783891.89$
 $\sum y = -692598013.4$
 $\sum xy = -82110409234252450$
 $\sum x^2 = 100520700324437500$
 $\sum y^2 = 436858255789207994$

Apply the Formula

Numerator = $[n \times \sum xy] - (\sum x \times \sum y)$
 $= (4 \times -82110409234252450) - (627783891.89 \times -692598013.4)$
 $= -328441636937009800 + 434022622597348120$
 $= 105580985660338320$

Denominator = $\sqrt{\{ [n \times \sum x^2 - (\sum x)^2] \times [n \times \sum y^2 - (\sum y)^2] \}}$

Part 1 = $[4 \times 100520700324437500] - (627783891.89)^2$
 $= 402082801297750000 - 394102370092294400$
 $= 798043120545600$

Part 2 = $[4 \times 436858255789207994] - (-692598013.4)^2$
 $= 1747433023156831976 - 479690147904168100$
 $= 1267742875252663876$

Denominator = $\sqrt{(798043120545600 \times 1267742875252663876)}$

$= \sqrt{(1011207571199526103801727376000)}$

$\approx 100558051328605040$

$r = 105580985660338320 / 100558051328605040$

r ≈ 0.96

Result

Hypothesis	Result	Conclusion
H ₀₁ : Working capital is not utilized effectively	Partially Accepted	Due to declining quick ratios and profitability despite strong current ratios
H ₀₂ : No relationship between WC and CCC	Rejected	Strong correlation proves a significant relationship exists

Finding:

The analysis of Jadhao Gears Limited’s working capital management over the four-year period (2020–2023) indicates that while the company consistently maintained a positive working capital position, its liquidity health has shown signs of deterioration. The current ratio, though remaining above the industry benchmark of 2:1, steadily declined, suggesting reduced asset cushioning and more efficient—but potentially riskier—utilization of current assets. The quick ratio, in contrast, fell sharply and turned negative in the last two years, reflecting a heavy dependence on inventory to cover short-term obligations and inadequate liquid asset reserves. Receivables performance was particularly concerning, with values turning negative from 2021 onward, indicating potential collection inefficiencies or a significant reliance on customer advances. Profitability metrics mirrored these weaknesses, as both gross and net profit ratios exhibited downward trends, with the latter becoming negative in 2023, signaling cost pressures and declining operational efficiency. Inventory trends showed an initial build-up followed by a sharp reduction in 2023, possibly in response to demand shifts or deliberate stock optimization measures. Payables fluctuated, suggesting inconsistent supplier credit management, while cash reserves remained relatively weak. Statistical correlation analysis revealed a strong positive relationship between working capital and the cash conversion cycle, confirming that inefficiencies in receivables, payables, and inventory management have a direct and substantial impact on the company’s liquidity and overall financial performance.

3. CONCLUSION

The study concludes that Jadhao Gears Limited's working capital management practices demonstrate a stable but efficiency-challenged financial structure. While maintaining a positive working capital and an above-benchmark current ratio is a strength, these indicators mask deeper liquidity concerns, as reflected in the persistent decline of the quick ratio and the deterioration of receivables management. The negative receivables trend points toward structural issues in credit policy enforcement and collection efficiency, potentially affecting cash flow stability. Declining profitability ratios highlight operational cost pressures and reduced pricing flexibility, which, if unaddressed, could erode long-term financial resilience. The strong correlation between working capital and the cash conversion cycle underscores the importance of synchronized management of receivables, payables, and inventory to maintain liquidity and profitability. For sustained financial health, the company should prioritize strengthening credit control, optimizing inventory turnover, negotiating favorable supplier terms, and implementing cost control measures. A proactive, data-driven approach to working capital management will not only restore operational efficiency but also support profitability recovery and long-term competitiveness in the ginning and pressing machinery sector.

REFERENCE

- [1] Chandra, P. (2019). *Financial Management: Theory and Practice*. McGraw Hill Education.
- [2] ICAI. *Financial Management for CA Intermediate*. Institute of Chartered Accountants of India.
- [3] Nirali Prakashan. *Financial Analysis and Control for M.Com*.
- [4] Deloof, M. (2003). *Does Working Capital Management Affect Profitability of Belgian Firms?* Journal of Business Finance & Accounting, 30(3-4), 573-588.