

Strategic Approaches to Working Capital Management: Insights from a Case Study

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ABSTRACT

The management of working capital is an essential constituent of financial management for companies of all sizes. It entails handling a business's provisional assets and liabilities skilfully in order to ensure stable finances and seamless operations. Organizations can expand their profitability and liquidity by keeping their working capital at an ideal level. Accurate cash flow forecasting and effective inventory, accounts receivable, and accounts payable management are prerequisites for efficient Handling of Working Capital. This abstract acts as a starting point for understanding the core ideas and procedures related to operating capital management.

Recognizing the importance of working capital, an empirical study has been made in a Pharmaceutical Company, Aarti Drugs Ltd, Gujarat, as a first attempt, covering the period of five years from 2015-16 to 2019-20. No previous study has been made in this regard.

In the present analysis, Current Ratio, Quick Ratio, Return on Capital Employed, Return on Equity, Stock Turnover Ratio, Stock Velocity(Days), Working Capital Turnover Ratio, Debtors Turnover Ratio, and Debt to Equity Ratio have been applied as Achievement indicators for assessing the performance of the working capital.

In addition to the application of key performance indicators and for a deeper comprehension of evaluation of the working capital, the mathematical frame work, developed by Prof. Bhattacharya (1997) has been applied. Performance Index (PI), Working Capital Utilization Index (UI), and Efficiency Index (EI) have been calculated as per the mathematical model.

Spearman's rank correlation, T-test have been applied to analyse the monotonicity of the relationship between liquidity and profitability. Motaal's Comprehensive Test of Liquidity has been applied to test the soundness of the firm as regards liquidity position

Keywords: Working Capital, Working Capital Policy, Liquidity, Profitability, Ratios.

1. INTRODUCTION:

Capital is essential for a company, as no business can be established without it. Regardless of the type of company, binary types of capital are crucial: Fixed Capital and Working Capital. Fixed Capital is used for generating profits, while Working Capital ensures liquidity. Working Capital supports the company by being invested in current assets, whereas Fixed Capital is tied to long-term assets like machinery and land. The finance manager's primary responsibility is to maintain a balance between the two. Focusing too much on Working Capital can jeopardize profitability, while prioritizing Fixed Capital can harm liquidity, which is vital for daily operations. A shortage of Working Capital can lead to unpaid wages, missed payments for raw materials, and damage to the company's reputation. Insufficient Fixed Capital may raise concerns among investors and hinder the company's growth.

It is the finance manager's duty to ensure an optimal investment in both Fixed and Working Capital. Working Capital, in its traditional sense, is the amount needed to cover the daily expenses of a business. In terms of management, it means having more current assets than liabilities. The flow of Working Capital resembles the circulation of blood in the human body, representing the continuous cycle of cash being converted into inventory, work-in-progress (WIP), finished goods, receivables, and back to cash. Effective Working Capital Management focuses on making the best use of available funds.

2. REVIEW OF LITERATURE:

ASHOK KUMAR AND SHARMA (2011) - The study examines the consequences of working assets on the success of Indian businesses. The outcome demonstrates the positive connectivity between working capital and profitability.

JOSHI, LALITIKUMAR. (2012): Cipla Limited's working capital performance is the subject of this study. The project took place over the course of five fiscal years, from 2004–05 to 2008–09. Statistical instruments and accounting ratios were employed in the analysis. The findings validated the adverse relationship between profitability and liquidity and demonstrated that working capital oversight was adequate.

European-American Journals: Working Capital Supervision and Firm Benefit During and After the Financial Emergency Among Malaysian Recorded Companies (2017):

The results suggest that businesses should work to expedite the outstanding cash collection procedure.

Agyeman and Agyei (2019) examined firms in the manufacturing sector and found that efficient working capital management, particularly in terms of inventory management and receivables turnover remarkably impacts profitability. Their study resolved that firms with shorter cash adaptation cycles tend to achieve higher profitability, supporting the notion that lessening the time between cash outflows and inflows advances financial performance

Singh and Kumar (2019) expanded on this research by analysing firms across different industries in India. Their findings suggest that firms which balance short-term liquidity with long-term profitability through strategic working capital decisions outperform those with less efficient management systems. The study emphasized that optimal working capital levels expand corporate performance by diminishing financial stress and enhancing operational capabilities. These studies provide valuable insights into how firms can improve financial outcomes by maintaining an efficient working capital cycle.

3. OBJECTIVES:

- (i) To scrutinize the oversight of working capital of Aarti Drugs Ltd.
- (ii) To analyse the liquidity status of Aarti Drugs Ltd.
- (iii) To understand the liquidity versus profitability trade-off
- (iv) To examine the long-term solvency condition of the firm under study.
- (v) To provide treasured ideas for the performance improvement

4. COMPANY PROFILE:

Aarti Drugs Limited was established on September 28, 1984, as a Private Limited Company and later transitioned into a Public Limited Company on July 1, 1992. The company specializes in producing drugs for tuberculosis. It began manufacturing at scale in March 1987 at the G.I.D.C. Industrial Estate in Sarigam, Valsad District, Gujarat. The project received financial support from the Gujarat State Finance Corporation (GSFC) and Gujarat Industrial Investment Corporation (GIIC). Aarti Drugs has built a strong reputation in international markets due to its consistent track record of timely responses, competitive pricing, and reliable commitments. This has solidified its position as a dependable supplier of bulk drugs and intermediates globally. The company has also been recognized with several awards, including the Customer Response Award, Outstanding Performer in Exports, and Best Vendor Appreciation as a Business Partner.

5. INVESTIGATION PROCESS:

SAMPLE DESIGN: The sample for the study is a public limited company named Aarti Drugs Ltd. It is a listed company, in Pharmaceutical Sector. The type of sampling is purposive sampling.

6. DATA COLLECTION: The majority of the data used in the study comes from secondary sources (Annual Reports and Financial Statements) which can be found on MoneyControl.com.

7. TIME DURATION: The study covers the period of five year from 2015-16 to 2019-20.

8. TOOLS: Ratio analysis, Spearman's rank correlation, T-test, MORTAAL'S Comprehensive Test of Liquidity have been applied. The overall efficiency in the management of working capital has been appraised by implementing the mathematical pattern advocated by Prof. Bhattacharya.

Table – 1: Working Capital Performance

Ratios	2015-16	2016-17	2017-18	2018-19	2019-20
Current Ratio	1.136	1.179	1.183	1.343	1.484
Quick Ratio	0.79	0.76	0.75	0.93	0.93
Return on Capital Employed	16.07	16.16	15.42	15.00	18.21
Return on Equity	18.92	19.51	16.95	16.83	21.82
Stock Turnover Ratio	5.21	4.63	3.93	4.82	4.78
Stock Velocity(Days)	70.06	78.83	92.88	75.73	76.36
Working Capital Turnover Ratio	15.94	14.99	12.13	9.84	7.15
Debtors Turnover Ratio	3.46	3.63	3.54	3.63	3.63
Debt to Equity Ratio	64.89	72.35	67.95	59.20	47.11

(Source: Financial Statement of Aarti Drugs Limited)

An optimal current ratio between 1.5 and 2.5 is typically regarded as acceptable for the pharmaceutical industry and often serves as a benchmark.

From the table, it is observed that between 2015-16 and 2019-20, the current ratio increased, although it remained below this benchmark.

Generally, a quick ratio around 1:1 or slightly higher is considered acceptable for many pharmaceutical companies. However, the quick ratio remained below the standard of 1 throughout the five-year period, suggesting that the firm may not be well-positioned to face short-term commitments with its short-term assets.

The Return on Capital Employed (ROCE) continued stable and high during the five-year period. This ratio is inclined by several aspects, such as the essence of the industry and the economic environment (e.g., inflation, macroeconomic conditions, and risk). ROCE between 12% and 15% is typically desirable, and the Return on Equity (ROE) also indicates that equity shareholders have been adequately rewarded.

The Stock Turnover Ratio showed a continuous decline over five years, dropping below 4 in 2017-18. A stock turnover ratio between 3 and 6 is generally acceptable for the pharmaceutical industry, indicating that the firm is neither overstocked nor facing a stock shortage. However, the consistent decrease in the stock turnover ratio, along with a rise in stock velocity, suggests that improvements in inventory management are needed to support turnover growth.

A working capital turnover ratio between 4 and 6 is generally considered acceptable for many pharmaceutical companies. In this situation, the company's working capital turnover ratio has remained above the industry-specific benchmark over the past five years, but it has been steadily declining. This suggests the firm is making significant investments in accounts receivable and inventory to support sales, which could result in substantial bad debts and high inventory costs.

As a guideline, a debtors turnover ratio between 8 and 12 is usually seen as acceptable for pharmaceutical companies. The company's debtors turnover ratio has remained stable over five years, with minor fluctuations in 2015-16 and 2017-18. However, the extended credit and collection periods suggest inefficiencies in working capital management, as a longer collection period is not advisable for optimal working capital control.

The debt-to-equity ratio replicates the company's capital structure, indicating whether it is more reliant on debt or equity. The continuous decrease in the debt-to-equity ratio suggests the firm is relying more on equity than debt, making it a low-geared company with a strong long-term solvency position, considering financial risk.

In terms of productivity, both the Return on Capital Employed (ROCE) and Return on Equity (ROE) have revealed steady concern in the last five years.

Alternative Evaluation of Working Capital Management

Besides using key performance metrics, the overall functioning of working capital has been assessed through the application of analytical model advocated by Prof. Bhattacharya 1997)

PI (Performance index of working capital management)

$$PI = \frac{\sum_{i=1}^N \frac{Wi(t-1)}{Wi}}{N}$$

Is : $St/St-1$ (Sales Index)

Wi : Each current assets item-

N : Number of current assets item

i : 1,2,3,N

UI (Utilization index of working capital management)

Total Current Assets t-1

Salest-1

Total Current Assetst

Sales t

EFFICIENCY INDEX - EI = PI * UI

Table -2: (Performance Index, Utilization Index and Efficiency Index)

EFFICIENCY INDEX - EI = PI * UI			
YEAR	PI	UI	EI
2015-16	0.94147741	0.94484329	0.889548619
2016-17	0.74611299	1.036324499	0.773215171
2017-18	0.69638374	0.796142069	0.554420391
2018-19	0.981394356	1.208593929	1.186107261
2019-20	0.957498467	1.001156572	0.958605883

From the overhead table, it is implicit that the working capital efficiency index is below the index value 1, except in the year 2018-19. It indicates that measures have to be taken to manage the working capital more efficiently.

Liquidity and Profitability: The Financial Stability and Profit Generation synergy has been analysed using the Spearman's Rank Correlation Technique. Null Hypothesis: There is an adverse link between Solvency and Profit Margins.

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

$$p = 0.10t = 0.174$$

The table value of t at 5% level of significance (n-2) (5-2) having df 3 (degree of freedom) is 3.182 and the calculated t value is 0.174, which is below the table value. Hence the null hypothesis is accepted and the outcome depicts that there is an inverse proportionality between liquidity and profitability.

Table – 3: (Motaal's Comprehensive Test of Liquidity)

Year	Current Ratio	Quick Ratio	ROCE	Return on Equity	Working Capital Turnover Ratio	Debtors Turnover Ratio	Debt to Equity Ratio	Total Rank	Ultimate Rank
2015-16	1.136	0.79	16.07	18.92	5.21	5.21	64.89	18	2
2016-17	1.179	0.76	16.16	19.51	4.63	1.16	72.35	24	4
2017-18	1.183	0.75	15.42	16.95	3.93	0.79	67.95	29	5
2018-19	1.343	0.93	15.00	16.83	4.82	2.41	59.20	19	3
2019-20	1.484	0.93	18.21	21.82	4.78	1.59	47.11	11	1

Table 3 shows that Ranking has been done based on greater liquidity. The final ranking is determined based on the principle that a lower sum of individual ranks indicates a more favourable liquidity position, and vice versa. Hence, the liquidity position of the company during the period 2019-20 is more favourable

9. Discussions & Results:

- The current ratio, though steadily increasing over the past five years, remains below the industry benchmark of 1.5 to 2.5. While this upward trend is promising, further actions are necessary to enhance the company's liquidity position.
- The quick ratio is below the standard of 1, indicating the need for the company to improve its short-term liquidity. However, the return on capital employed is satisfactory.
- Both stock turnover ratio and stock velocity ratios suggest that inventory management requires attention. Although the stock turnover ratio is within industry standards, it has been declining over the past five years, highlighting the need to focus on improving turnover.
- The working capital turnover ratio and debtor's turnover ratio suggest that the company should revise its credit policy and work on increasing turnover.
- The debt-to-equity ratio designates that the company's long-term solvency position is satisfactory.
- An alternative evaluation of working capital management using Prof. Bhattacharya's mathematical model proposes that there is scope for upgrading the efficiency in managing working capital.
- Statistical analysis reveals a high coefficient of variation in both the working capital turnover and debtors' turnover ratios.
- There is an inverse relationship between liquidity and profitability.
- A comprehensive liquidity test shows that the company's liquidity position was most favorable in 2019-20 compared to other periods.

A longer-term analysis of liquidity and profitability, utilizing advanced statistical tools such as time series and regression analysis, would provide deeper insights into the association between liquidity and profitability.

10. Conclusion:

The supervision of working capital is pivotal in shaping the financial stability of the company. Effective management of the three key gears of working capital viz., Treasury Management, Credit Control, and Inventory Control can significantly enhance business performance. The company's liquidity and profitability are directly influenced by how well its working capital is managed.

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